SAMSUNG
Electronics

8

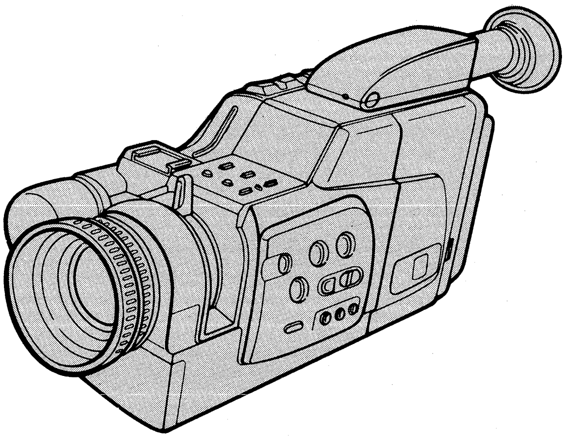
AF
Auto Focus
CCD
Charge Coupled Device

SERVICE MANUAL

MODEL : VC-E805P

SCM-P2-001-2E
68139 - 422 - 101

8 mm CAMERA RECORDER



SPECIFICATION

SYSTEM

Video recording system :	Rotary two heads, Helical scanning FM system
Audio recording system :	Rotary head, FM system
Video signal :	PAL color, CCIR standards
Usable cassette :	8mm video format cassette
Tape speed :	SP ; Approx. 20.051 mm/sec. LP ; Approx. 10.058 mm/sec.
Recording/Playback time :	SP mode ; 1 hour 30 min (P5-90) LP mode ; 3 hours (P5 - 90)
Fast forward/rewind time :	Approx. 6.5 min. (P5 - 90)
Image device :	CCD (Charge Coupled Device)
Viewfinder :	Electronic viewfinder (black and white)
Lens :	Combined 8 X power zoom lens f= 8.7 ~ 70mm, F=1.4 ~ 1.8 with macro Filter diameter : 46 mm
Auto focus system :	IR
Color temperature :	AUTO INDOOR 3,100° K OUTDOOR 5,100° K
Minimum illumination :	3 Lux
Recommended illumination :	More than 300 lux (28 footcandles)
Aperture corrcetion :	Automatic Back light adjustment

INPUT AND OUTPUT CONNECTOR

Video output :	Phono jack, 1 Vp-p, 75 ohms unbalanced, sync negative
Audio output :	Phono jack, - 7.5, dBs, at output impedance less than 2.2 kilohms
RFU DC OUT :	Special minijack, 5 V DC
Earphone jack :	Minijack, 8-ohm impedance
Remote jack :	Stereo mini-minijack With 5 V DC output, impedance 6.8 kilohms
Microphone power output jack :	Special minijack, 5 V DC

GENERAL

Power requirements :	Battery compartment 7.5V (AC power adaptor)/ 9.0V (alkaline batteries) 6.0 V (battery pack)
Power consumption :	7.7W (camera recording) including the viewfinder
Installation :	Vertically, horizontally
Operating temperature :	0° C to 40° C (32° F to 104° F)
Storage temperature :	-20° C to 60° C (-4° F to 140° F)
Dimensions :	Approx. 119 x 150 x 332 (W/H/D) (4.7 x 6 x 13 in.)
Microphone :	Electret condenser microphone, omni-directional monaural type

Printed in Korea

NOV. 1991

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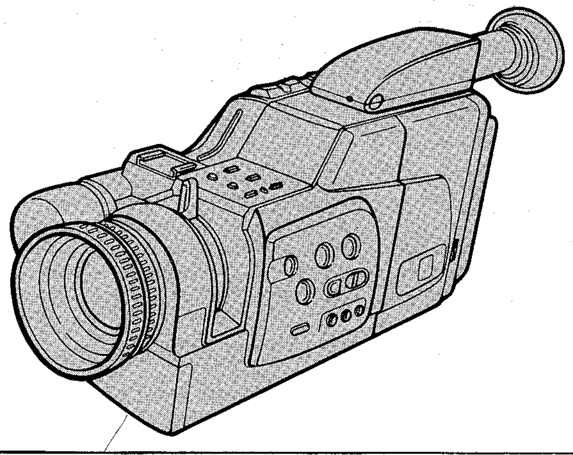

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LP mode ; 3 hours (P5 - 90)
Fast forward/rewind time : Approx. 6.5 min. (P5 - 90)
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(black and white)
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f= 8.7 ~ 70mm, F=1.4 ~ 1.8 with macro
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1.GENERAL DESCRIPTION

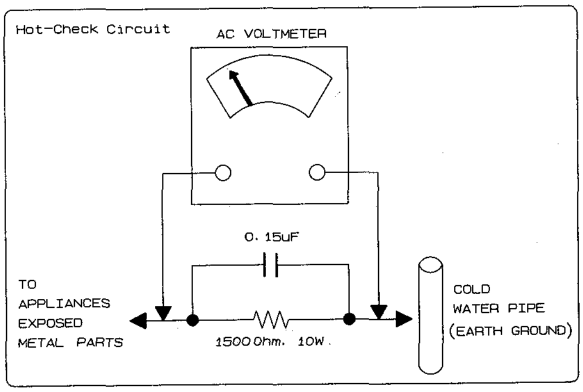
1-1. SAFETY PRECAUTIONS

GENERAL GUIDE LINE

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged.
2. After servicing , see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.
4. Use a separated isolation transformer for this unit when servicing.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet, part on the equipment such as screw heads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1m and 5.2m. When the exposed metal does not have a return path to the chassis, the reading must be oo.


Hot-Check Circuit
AC VOLTMETER
0. 15uF
TO APPLIANCES EXPOSED METAL PARTS
1500Ohm. 10W.
COLD WATER PIPE (EARTH GROUND)

LEAKAGE CURRENT HOT CHECK (See Fig.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect an 1.5K, 10 watt resistor, in parallel with a 0.15uF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in figure.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester may be used to make the hot checks, leakage current must not exceed 0.5 milliamp.
In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is retunred to the customer.

1-2. ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called "Electrostatically Sensitive (ES) Devices". Examples of typical ES devices are integrated circuits, some field effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which shound be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti static solder removal device. Some solder removal devices not classified as "anti static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil ora comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise, harmless motion such as the brushing together of your clothes fabric to the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

1-3. FEATURES

* CCD Pick Up Device
* Auto Focus, Power Zoom Lens with Macro
* Auto IRIS
* Auto Tracking
* Electronic Viewfinder
* Full record and playback capability with 8mm cassette
* Variable high speed shutter
* Fade In/Out
* Recording Review
* On-Screen Displays (OSD)
* Edit Search
* Superimpose
* SP mode and LP mode recording
* Auto lock

1-4. SAFETY INSTRUCTIONS

1. Read Instructions : All the safety and operating instructions should be read before the CAMCORDER is operated.

2. Retain Instructions : The safety and operating instructions should be retained for future reference.

3. Heed Warnings : All warnings on the CAMCORDER and the operating instructions should be adhered to.

4. Follow Instructions : All operating and maintenance instructions should be followed.

5. Cleaning : Unplug this CAMCORDER from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for dusting cabinet.

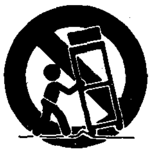
6. Attachments : Do not use attachments not recommended by the CAMCORDER product manufacturer, as they may be hazardous or cause damage.

7. Water and Moisture : Do not use this CAMCORDER near water-IE bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, or the lake.

8. Accessories : Do not place this CAMCORDER on an unstable cart, stand, tripod, bracket, or table.
The CAMCORDER , if dropped could cause damage or injury. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the CAMCORDER . Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

a. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surface may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(Symbol provided by RETAC)



9. Ventilation : Slot and opening in the cabinet are provided for ventilation to ensure reliable operation of the CAMCORDER and to protect it from overheating. These openings must not be blocked or covered. Never place your CAMCORDER on a bed,sofa,rug,or other similar surface on or near a radiator or heat register. This CAMCORDER should not be placed in a built in installation such as a book case or rack unless proper ventilation is provided or manufacturer's instructions have been adhered to.

10. Power Sources :This CAMCORDER should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. To operate the CAMCORDER by battery or other power source, consult the operating instructions.

11.Grounding and Polarization: This CAMCORDER may be equipped with either a polarized 2-wire AC line plug (a plug having one blade wider than the other) or a 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature.
If you are unable to insert the plug fully into the outlet,try reversing the plug. If the plug still fails to fit, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.

12. Power-Cord Protection : Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, especially cords of plugs and convenience receptacles, at the point where they exit from the unit.

13. Lightning : For added protection of this CAMCORDER during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage of the CAMCORDER from lightning and power-line surges.

14. Power Lines : An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, where it can fall into such power lines or circuit. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

15. Overloading : Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

16. Objects and Liquids : Never push objects of any kind into the CAMCORDER as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquids of any kind onto the CAMCORDER. Should spill occur, unplug unit and have it checked by a technician before use.

17. Servicing : Do not attempt to service this CAMCORDER yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service person.

18. Damage Requiring Service : Unplug this CAMCORDER from the wall outlet and refer servicing to qualified service personnel under the following conditions :

a. When the power-supply cord or plug is damaged.
b. If any liquid has been spilled into, or objects have fallen in the CAMCORDER.
c. If the CAMCORDER has been exposed to rain or water.
d. If the CAMCORDER does not operate normally by following the operating instruction, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the CAMCORDER to its normal operation.
e. If the CAMCORDER has been dropped or the cabinet has been damaged.
f. When the CAMCORDER exhibits a distinct change in performance, this indicates a need for service.

19. Replacement Parts : When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part.
Unauthorized substitutions may result in fire, electric shock or other hazards.

20. Safety Check : Upon completion of any service or repairs to this CAMCORDER , the safety check procedure should be performed.

IMPORTANT SAFETY NOTICE
There are special components in this equipment which are important for safety. These parts are marked by ! in the schematic diagram, exploded views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts owing to shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

WARNING ;
Lithium battery - Danger of explosion if incorrectly replaced.
Must only be replaced by a battery of same make and type.
Used batteries shall be returned to the supplier.

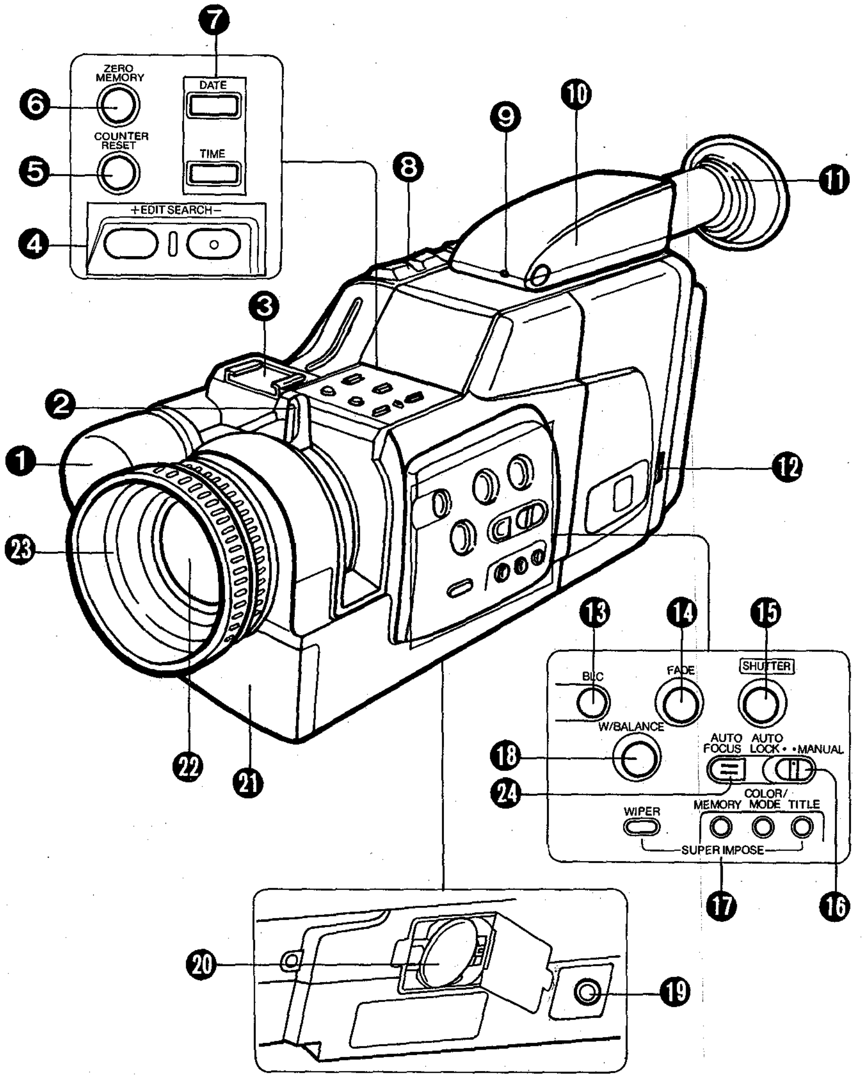
ADVARSEL
Lithiumbatteri - Eksplosionafare ved fejlagtig håndtering.
Udskifthing må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

ADVARSEL
Lithiumbatteri - Eksplosjonsfare.
Ved utskifting benyttes kun batteri som
anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera anvant batteri enligt fabrikantens
instruktion.

VAROITUS
Earisto voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

DESCRIPTION OF CONTROLS- I



① **MICROPHONE**
Is built-in the CAMCORDER.

② **ZOOM LEVER**
Wide MICRO button (yellow button)

③ **ACCESSORY SHOE**
Used to attach a camera light (not supplied).

④ **EDIT SEARCH BUTTON**
(And record review button)

⑤ **COUNTER RESET BUTTON**
Press to reset the counter to zero.

⑥ **ZERO MEMORY BUTTON**
Used to memorize the counter zero point.

⑦ **DATE/TIME BUTTON**
Press the display or turn off the date or time.

⑧ **POWER ZOOM SWITCH**
The switch performs zooming electrically.
W:Picture gradually becomes wider
T:Picture gradually becomes tighter

⑨ **CAMERA RECORD INDICATOR**
Lights during camera recording.

⑩ **ELECTRONIC VIEWFINDER (EVF)**
Displays in black and white what the CAMCORDER lens sees. the electronic viewfinder also functions as convenient black and white monitor during playback of recorded material.

⑪ **FOCUS CONTROL RING**
To use the electronic viewfinder without eye glasses, turn this control ring for your optimum focus adjustment.

⑫ **BATTERY EJECT LEVER**
Release the battery attached to the CAMCORDER.

⑬ **BLC BUTTON**
When excessive lighting is located in back of the subject, press this button.

⑭ **FADE BUTTON**
During recording, you can add a professional touch to your recordings by fading in and out of scenes.

⑮ **SHUTTER SPEED CONTROL BUTTON**
Used to control the shutter speed.

⑯ **AUTO LOCK SWITCH**
Keep this switch AUTO LOCK position when adjusting the FOCUS, WHITE BALANCE or SHUTTER SPEED automatically.
To adjust these manually, set this switch MANUAL position.

⑰ **SUPER IMPOSE BUTTON**
Used to record the title.
MEMORY button
COLOR/MODE button
TITLE button
WIPE button

⑱ **WHITE BALANCE BUTTON**
Used for manual white balance adjustment.

⑲ **TRIPOD RECEPTACLE**
The length of the camera mounting screw must be less than 9mm.

⑳ **LITHIUM BATTERY COMPARTMENT**
Open the cover of bottom and insert new battery.

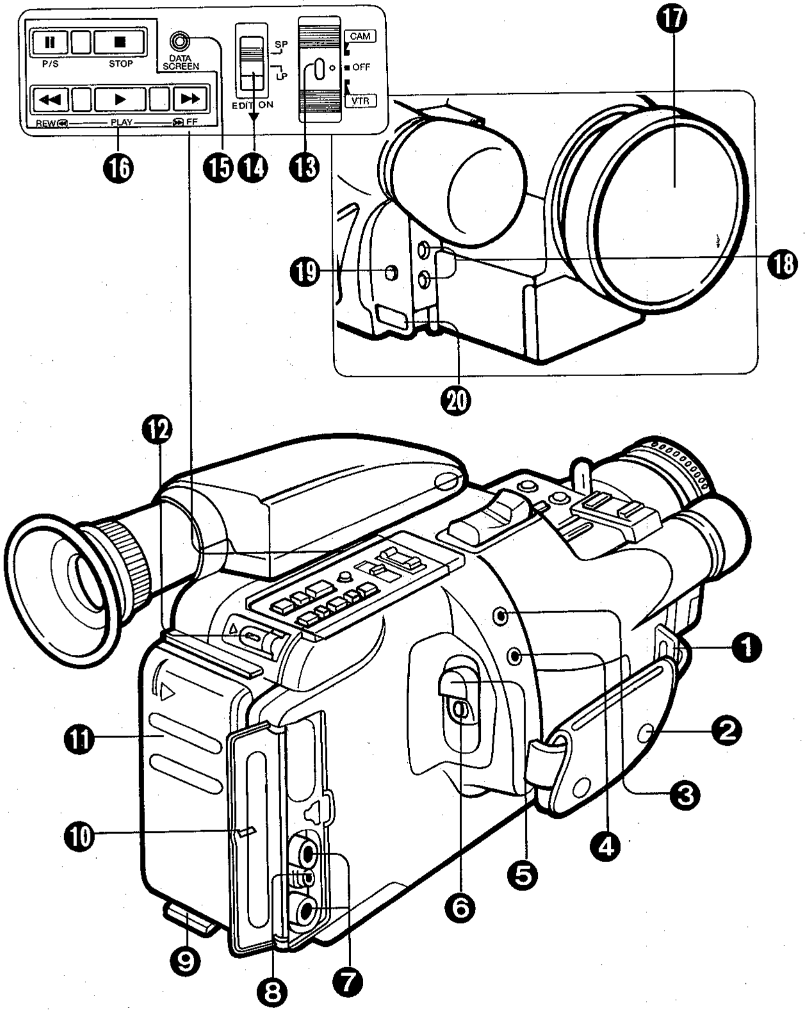
㉑ **AUTO FOCUS WINDOW**
To automatically focus the camera lens, this window transmits and receives infraredrays which are reflected off the object. Make sure you don't obstruct this window when recording.

㉒ **LENS**
F1.4~1.8(f = 8.7~70) 8 : 1
POWER ZOOM LENS features auto focus and auto iris function.

㉓ **FOCUS RING (LENS HOOD)**
When the focus mode is set MANUAL FOCUS you can grasp the ring and adjust focus as desired. Do not attempt to manually turn this ring when the AUTO FOCUS mode.

㉔ **AUTO FOCUS BUTTON**
Used to the MANUAL position.

DESCRIPTION OF CONTROLS- II



① **LENS CAP TAB**
Place the lens cap on this tab when you are ready to record a scene. The tab also prevents the lens cap from swinging around on its cord.

② **HAND STRAP**
Adjust to best fit your hand.

③ **REMOTE JACK**
Used for wired remote control.

④ **EARPHONE JACK**
Sound being recorded by the microphoner played back may be monitored by attaching earphone (not supplied) to this jack.

⑤ **STANDBY SWITCH**
Slide up to STANDBY to set the CAMCORDER to recording pause mode.

⑥ **CAM REC START/STOP button**
Press to start and stop camera recording.
Battery check at the VTR mode.

⑦ **AUDIO/VIDEO OUT(output) JACKS**
(phono jacks)

⑧ **RFU DC OUT**
Supplies power to RF unit.
(Accessory No.3)

⑨ **HOOK FOR SHOULDER STRAP**
Attach a shoulder strap.

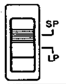
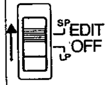
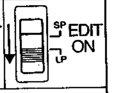
⑩ **A / V OUT JACK PROTECTION COVER**
Normally close the cover to remove dust and moisture from inside of A/V OUT JACK.

⑪ **BATTERY MOUNTING POSITION**

⑫ **EJECT SWITCH**
Slide this switch to open the cassette door for tape insertion or removal.

⑬ **POWER SELECT SWITCH**
CAM : For camera recording
OFF : Power off
VTR : For playing back of editing or recording tapes.

⑭ **REC MODE(recording mode)/EDIT SWITCH**
Switch it depending on the operating mode.

Mode	Recording	Playback	Editing
Setting			
Function	Recording mode switch	EDIT switch	

⑮ **DATA SCREEN BUTTON**
Press to display the indication on the TV

⑯ **VTR FUNCTION BUTTON**
These buttons will not operate unless POWER select switch is in the VTR position.
▶(playback) ■ (stop)
◀◀ REW(rewind) ▶▶ FF(fast forward)
▮▮ (pause/still)
(Battery check at the CAM mode)

⑰ **LENS CAP**
Normally close the cap for protection of the lens.

⑱ **MIC**
Connect an external microphone(not supplied) here to record sound from an external microphone.

NOTE:Connecting an external microphone automatically switches off the built-in microphone.

⑲ **RECORD START/STOP BUTTON**
This button is used to control the CAMCORDER. When this button is pressed with the CAMCORDER set to the recording mode, the tape runs to start recording.
When this button is pressed again, the tape stops and the CAMCORDER enters the RECORD PAUSE (stand-by) mode.
BATTERY check in VTR mode.

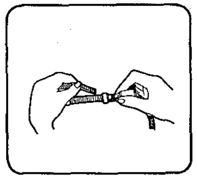
⑳ **HOOK FOR SHOULDER STRAP**
Attach a shoulder strap.

PREPARATIONS FOR CAMERA RECORDING

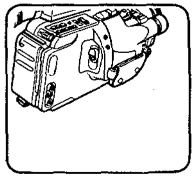
STRAP ADJUSTMENT

SHOULDER STRAP

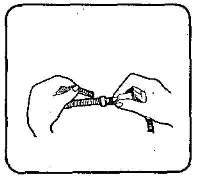
1. Unhook strap from buckle catch and then slide strap end out of its tension band.



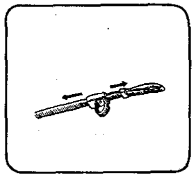
2. Thread the shoulder strap through the strap attachment ring.



3. Tighten the strap end back through its tension band.



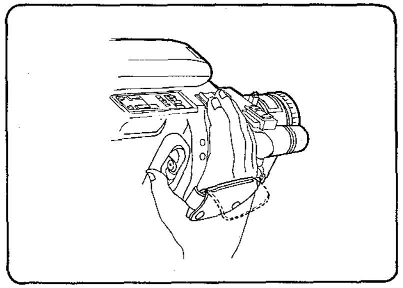
4. Pull a loop of the strap loose from its buckle, and then pull the strap firmly through its tension band or buckle to adjust its length.



☐ **HAND STRAP**

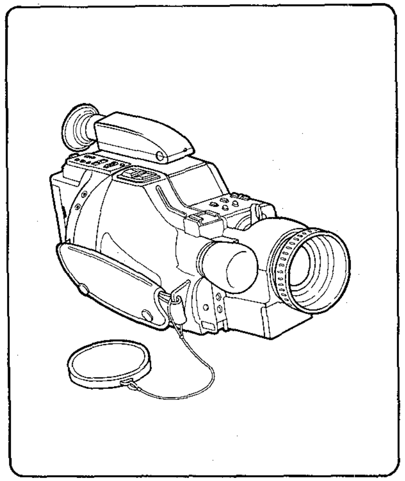
·The hand strap is designed to provide comfort and ease of operation while using the CAMCORDER.

·When your right hand is properly inserted through the strap, your fingers can easily control the POWER ZOOM switch and RECORD START/STOP button.



ADJUSTMENT FOR THE VIEWFINDER LENS

The CAMCORDER'S Electronic Viewfinder is a miniature black and white monitor that displays the picture seen by the CAMCORDER when recording.



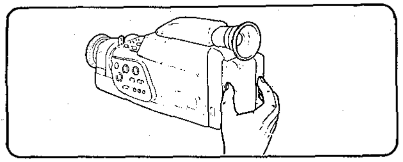
Adjustment of the viewfinder lens is necessary only for your initial use, or for use after someone else.

NOTE:

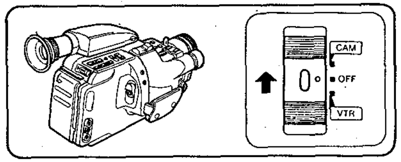
If you leave the unit in the recording pause mode for 5 minutes or more, the unit will be automatically turned off. To resume recording pause mode, slide the STANDBY switch down once and slide it up again. To start recording, press the START/STOP button.

The position of the viewfinder lens for optimum vision varies depending on the person.

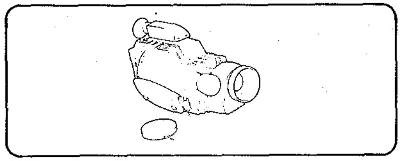
1. Connect a power source.



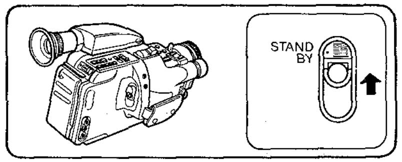
2. While pressing the small, black button in the centre, set the POWER switch to CAMERA.



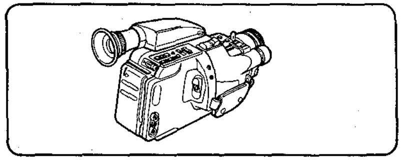
3. Remove the lens cap.



4. Slide the STANDBY switch up.



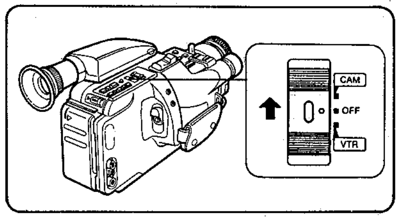
5. Turn the viewfinder focus control ring so that the indicator display on the viewfinder screen comes into sharp focus.



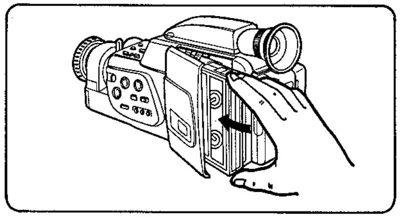
CAMERA RECORDING

HOW TO RECORD

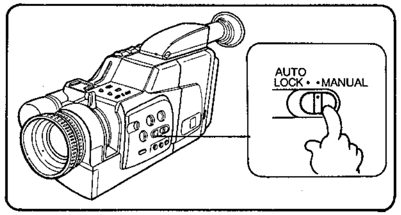
1. While pressing the small, black button in the centre, set the POWER switch to CAMERA.



2. Insert the cassette.

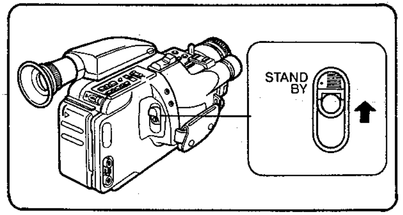


3. Set the AUTO LOCK switch to AUTO LOCK position

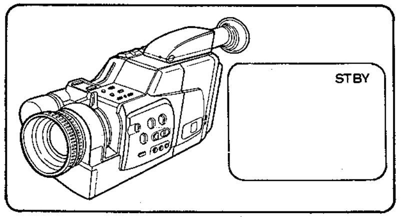


NOTE:
When the AUDIO LOCK switch is set to MANUAL position, each manual function works.(See on the page 1-8).

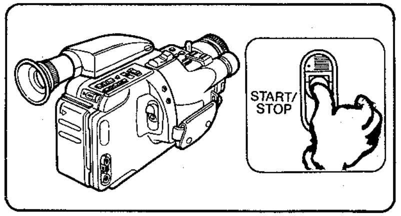
4. Slide the STANDBY switch up.



5. The unit will enter the recording pause mode.



6. Press the START/STOP button.
   Recording will start.

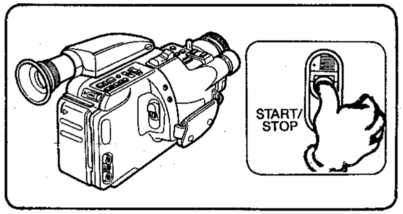


CHECK ON THE VIEWFINDER SCREEN
STBY:Displayed during recording pause mode.
REC:Displayed during recording.

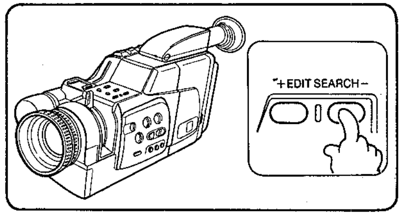
TO STOP RECORDING
Press the START/STOP button again.
The unit will enter the recording pause mode.

TO CHECK THE LAST PORTION OF THE PREVIOUS RECORDING (Recording review)

1. Set the recorder in recording pause mode by pressing the START/STOP button.



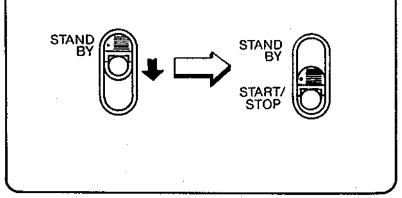
2. Press the " – " side of the EDIT SEARCH button.



·The last few seconds of the recorded portion are rewound and then the recorded picture is monitored on the viewfinder screen.
·The unit then enter the recording pause mode.

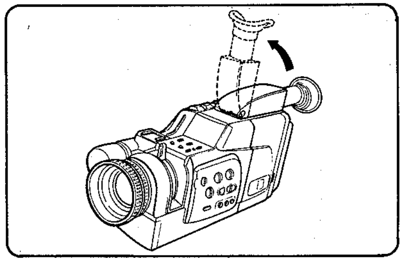
AFTER USING
Slide the STANDBY switch down and set the POWER switch to OFF. (You need not press the centre button when setting to OFF)

After Using



NOTE:
When it has passed 5 minutes after recording, the CAMCORDER is turned off automatically.
To use the CAMCORDER again set POWER switch to OFF, and then set POWER switch to CAMERA.

FOR LOW POSITION RECORDING
The viewfinder can be turned 90 degrees up.



NOTES ON LIGHT SOURCES

·Should you shoot a subject in bright conditions such as sunlight just after shooting in a dark place, the picture may not appear on the viewfinder screen. In this case, move the camera away from the subject to resume the normal condition.
·A vertical band may appear when a subject such as a candle flame or a light is shot against a dark background.

NOTES ON PLAYBACK ON ANOTHER VTR

·To view the picture which has been recorded on this unit, set the monitor switch of the recorder for playback to the STD (standard) position.
·When recording on this unit using a tape on which PCM stereo sound has previously been recorded, set the monitor switch of the video cassette recorder for playback to the STD (standard) position. Otherwise, the sound may not be heard or may be distorted.

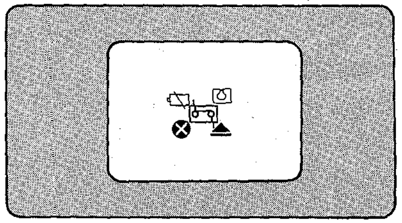
NOTES ON AUTOMATIC ADJUSTMENT

·During recording with auto focusing, do not turn or stop the focus ring (lens hood) forcibly.
·Keep the lens clean.

INDICATIONS ON THE VIEWFINDER SCREEN

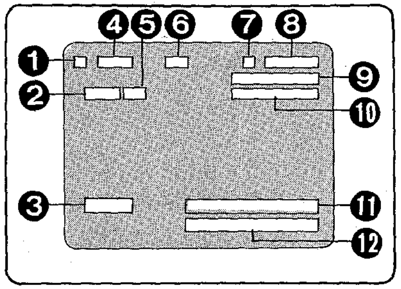
The electronic viewfinder is miniature monitor that displays in black and white what you are recording as you will see it in play back, and you can view this recording immediately in play back on this display.
The EVF display also enables you to check the CAMCORDER recording conditions and set them before you begin recording.
(This indication will not be recorded except date of time)

INDICATIONS FOR CAUTION



SIGN	CONDITIONS
🔋	Slow blinking ·the battery is weak. Fast blinking ·The battery is exhausted.
💧	Blinking ·Moisture has condensed inside the unit.
📼	Slow blinking ·No cassette is inserted. ·The tab on the cassette is out(red) ·It blinks five minutes before recording ends. Fast blinking ·The tape is at its end.
⊗	Blinking ·The gap of the video head is clogged. (Head contamination)
⏏	Blinking ·A fault has occurred in the unit.

INDICATIONS FOR SHOWING THE FUNCTION IN USE



NO	FUNCTIONS
1	Indicates the WHITE BALANCE MODE.
2	Indicates the SUPER IMPOSE TITLE MODE.
3	Indicates the BATTERY RESIDUAL QUANTITY MODE.
4	Indicates the SHUTTER SPEED.
5	Indicates the SUPER IMPOSE COLOUR MODE.
6	Indicates MANUAL FOCUS MODE.
7	Indicates the RECORDING/PLAYBACK MODE (SP/LP)
8	In the VTR OPERATION MODE. This indicates the tape transport function.
9	Indicates the TAPE COUNTER.
10	Blinks when the ZERO MEMORY button has been pressed.
11	Indicates the DATE.
12	Indicates the TIME.

TECHNIQUES FOR SHOOTING

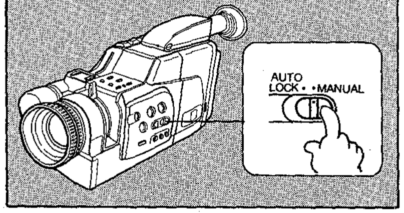
SELECTION OF THE AUTOMATIC OR MANUAL ADJUSTMENT

When the AUTO LOCK switch is set to AUTO LOCK position, the white balance, shutter speed(1/50), focus are adjusted automatically.

When the AUTO LOCK switch is set to MANUAL position, each manual function works as follows.

Each push of the button cyclically changes each function and the indication on the viewfinder changes.	
WHITE BALANCE	No indication (Auto) → 💡 → ☀ → (back to No indication)
SHUTTER SPEED	No indication (1/50) → 120 (1/120) → 250 (1/250) → 1000 (1/1000) → 2000 (1/2000) → 4000 (1/4000) → (back to No indication)
FOCUS	No indication (Auto) → ⛰ → (back to No indication)

NOTES:
·If the AUTO LOCK switch is set to AUTO LOCK after each function is adjusted manually, and then set to the MANUAL position again, the previous manual setting will be recalled.

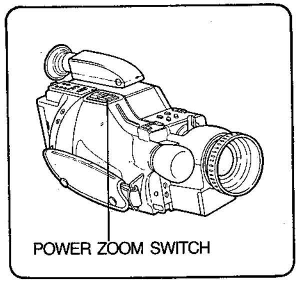


TECHNIQUES FOR SHOOTING

ZOOMING

Zoom in on hard-to-catch subjects or add close-up personal touches to your recording.
Zoom out to reveal a breathtaking view.
The camera has two zooming methods : power zoom & manual zoom.

POWER ZOOM
The size of the subject in the scene can be changed.
Press the T side of the POWER ZOOM switch for telephoto and W side for wide angle.

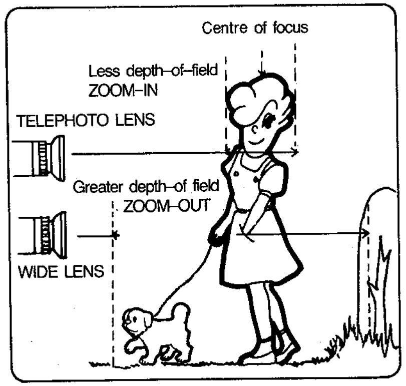


·Press POWER ZOOM switch on the W to gradually zoom out to wide angle.

WIDE(ZOOM OUT)
TELE(ZOOM IN)

·Press POWER ZOOM switch on the T to gradually zoom in to telephoto.

DEPTH OF FIELD
While you have the focus adjusted in the TELE-(ZOOM-IN) position, you may notice that the distance is very short between objects in focus.
This "focal length" distance is short from the front to the back of the picture at the centre of focus you have set with the focus feature. This is called a shallow DEPTH OF FIELD.
Move the zoom lever slowly toward the WIDE(ZOOM-OUT) position, for a deep DEPTH OF FIELD. The distance is greater between objects in focus. If you are following a moving subject, set the focusing ring to 5m and set the zoom ring to the WIDE position. Then, as the subject moves, the CAMCORDER will usually have enough depth of field to keep their image in focus.

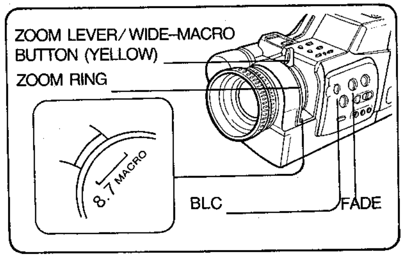


MACRO FOCUS FOR CLOSE-UP

Macro recording allows you to record small subjects such as flowers and insects close-up to full screen and achieve extremely fine detail in your pictures.

WIDE MACRO
The distance between objects and focus ring less than 0.6m in such a cases.
The objects can be extension photo graphing in on the WIDE MACRO function.
1. Set the AUTO LOCK switch to MANUAL position.
2. Turn the ZOOM RING lever to the extreme left position. (wide angle end)
3. Press the MACRO button on the ZOOM RING lever and move lever into wide macro range.
4. Approach subject to desired size in viewfinder.
5. Use ZOOM RING lever within macro range for fine focusing

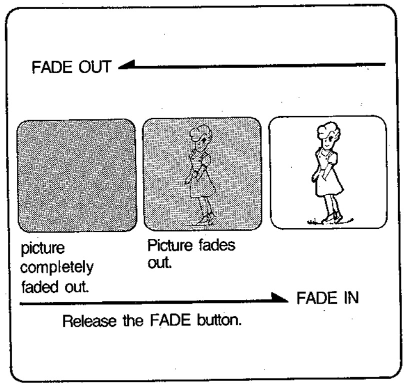
TELE MACRO
The distance between objects and focus ring 0.6m to 1.2m in such a cases.
The objects can be extension photo graphing in on the TELE MACRO function.
1. Set the AUTO LOCK switch to MANUAL position.
2. Turn the ZOOM RING lever to the extreme right position.(telephoto end)
3. Turn the focusing ring to tele macro range.
4. Approach subject to desired size in viewfinder.
5. Use ZOOM RING lever within tele macro range for fine focusing.



NOTE: Be sure to release the MACRO mode after using. If you fail to release the MACRO mode before returning to normal shooting, the pictures will be out of focus and autofocus will be incorrect.

FADE IN/ FADE OUT

Use the FADE button to activate the fade feature.
Picture will fade out when holding down the FADE button.
When the button is released, picture will fade in.
This feature eliminates sudden scene changes. For instance, before starting a record segment, hold down the FADE button until the picture fades out.
Then press the START/STOP button to start the recording, releasing the FADE button at the same time.
To fade out at the end of a recording segment, hold down the FADE button.
Then when the picture has faded out, press the START/STOP button to pause the recording.



BLC(BACK LIGHT COMPENSATION)
This button may be used to adjust the light level on a recording subject that is darker than the surrounding scene.
You will find this back light adjustment useful for recording a subject in a shadowed area or in front of strong backlight.
Press the BLC button while recording a high contrast scene, then release when the lighting condition changes.

TECHNIQUES FOR SHOOTING

SHUTTER SPEED CONTROL

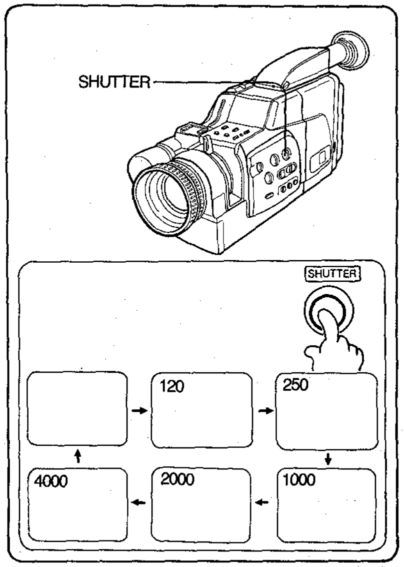
When a fast-moving subject is recorded at a normal shutter speed, the picture may not be seen clearly when played back. This can be improved by increasing the shutter speed.

The shutter speed of this unit can be selected from six speeds., 1/50 (normal speed), 1/120, 1/250, 1/1000, 1/2000 or 1/4000 second.

1. Set the AUTO LOCK switch to the right(MANUAL) position.
2. Press the SHUTTER button repeatedly until the desired shutter speed indication appears on the viewfinder screen.

·Each time the SHUTTER button is pressed, the indication of the EVF changes as illustrated.

No indication → 120 → 250 → 1000 → 2000 → 4000
(1/50). (1/120)(1/250)(1/1000)(1/2000)(1/4000)



NOTE:
When the shutter moves fast, it will not allow enough light to come into the lens, so the picture will be dark. Therefore, when recording at a high shutter speed, record in a brighter place than usual.

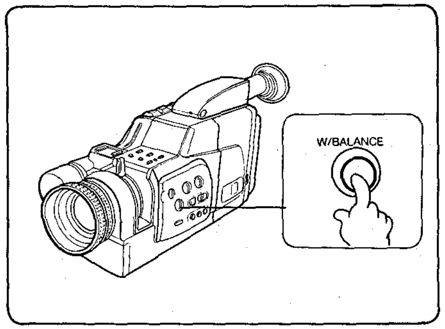
The Auto focus and white balance will not function when a shutter speed other than the normal speed and 1/120 is selected under fluorescent lamp.
When shooting, use manual focusing.
Choose an appropriate shutter speed according to the place and situation.
See the chart below for examples.

Example use	Recommended shutter speed
·On clear days, recording golf or tennis scenes (To view the hit ball clearly in the pause mode, set to 1/4000). ·Recording the skiers	1/4000 or 1/2000
·On overcast days, recording a moving merry-go-round or jetcoaster ·Recording outdoors from inside a vehicle (for stable shooting)	1/1000 or 1/250
·Instead of the ND2 filter (To reduce the exposure level to approx. 1/2) ·Recording indoors (for stable shooting)	1/120

NOTES:
·When shutter speed 1/250 or faster is selected, recording must be done under sunlight or video light.
·When the recording is done under a light discharged tube, such as a fluorescent lamp, sodium lamp, or mercury lamp, the brightness of the recorded picture may vary ("flicker").
·When the shutter speed is changed during a camera recording of a TV screen, the brightness of the recorded picture may vary.
·When a very bright object is shot at a faster shutter speed, a light, vertical, belt-like line ("smear") may appear on the screen.

WHITE BALANCE

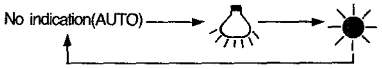
When the AUTO LOCK switch is set to AUTO LOCK position, the auto white balance function of this unit operates automatically in most cases.
However, if it does not work correctly, adjust the white balance manually.



In the case of difficult conditions for auto white balance.

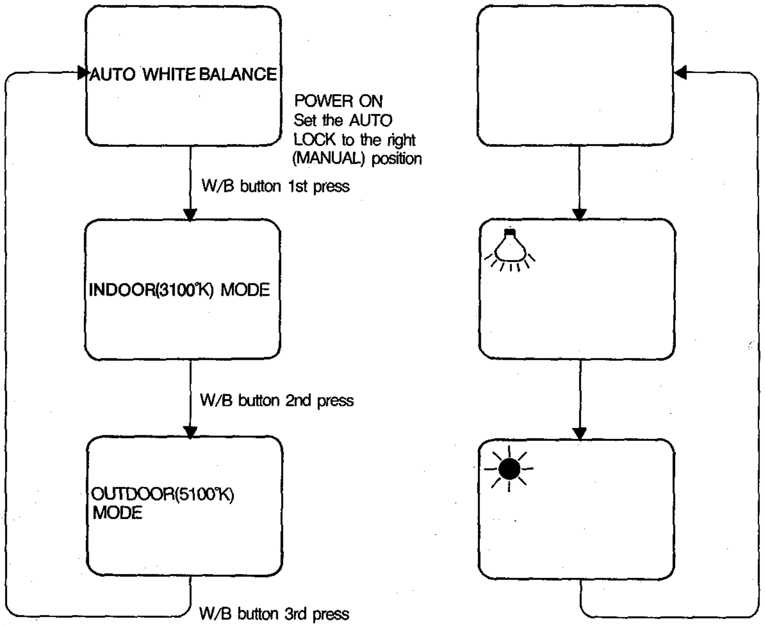
1. Set the POWER switch to CAMERA.
2. Set the AUTO LOCK switch to the right(MANUAL) position.
3. Select the desired white balance mode by pressing the WHITE BALANCE button.

·Each push of the WHITE BALANCE button cyclically changes the indication inside the viewfinder.



INFORMATION ON THE VIEWFINDER INDICATOR

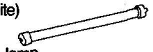
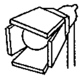
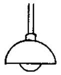
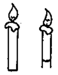
EVF



TECHNIQUES FOR SHOOTING

WHITE BALANCE

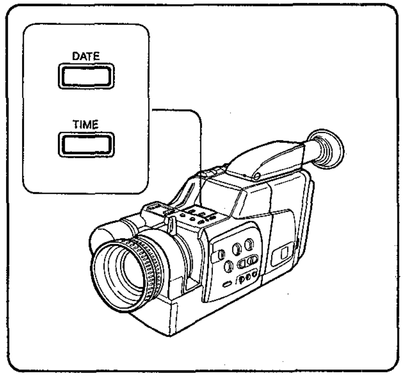
THE COLOR TEMPERATURE AND WHITE BALANCE ADJUSTMENT
If the temperature of an object continues to increase, it will eventually begin giving off light.
At this time, there is a fixed relationship between the object's temperature and its "light colour." The temperature of the object radiating the light is expressed in absolute temperature (°K). This is also known as the colour temperature, which in turn stands for "light colour." As colour temperature increases, the light colour changes from red to yellow to white to blue.

natural light colour temperature(K)		Colour change		Artificial light colour temperature(K)	White balance adjustment
Clear sky Slightly overcast	10,000(K)		10,000(K)		
	8,000		8,000		
	7,000	Blue	7,000	Fluorescent lamp (colour matching)	
Cloudy, rainy	6,000		6,000	Fluorescent lamp (daylight white) 	Outdoor mode
	5,000		5,000		
Direct sunlight 2 hr.				Fluorescent lamp (white)	
	4,000		4,000		
1 hr.		White			
	3,500		3,500		Auto white balance range
				Fluorescent lamp (off white) Studio lamp 	
40 min.	3,200		3,200	Halogen lamp	
Time after sunrise/ before sunset	3,000	Yellow	3,000	Tungsten lamp 	Indoor mode
30 min.	2,500		2,500		
20 min.					
		Red			
Sunrise/sunset	2,000		2,000	Candle light 	

RECORDING DATE OR TIME

During camera recording or in recording pause mode, press the DATE or TIME button to display the date or time on the viewfinder screen.
The date or time being displayed will be recorded together with the picture.

TO STOP RECORDING THE DATE OR TIME
Press the DATE or TIME button again. The picture recording will continue.



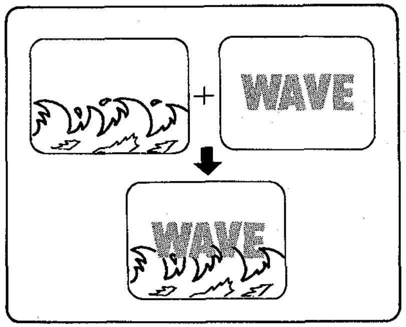
NOTES:
- Unless the date or time is presetted, it is impossible to record the date or time with the picture.
- Preset the date and time before your using.

RECORDING A TITLE

Before recording, memorize a title of figure.
The memorized title or figure is superimposed onto the picture being recorded.

The colour of the title or figure can be selected from 8 colours.

Make sure that lithium battery is installed.
(See page 11)



TO MAKE A DESIRED TITLE CARD
- Use a white and plane card and draw the title on it with a deep colour (black is recommended for the best result) in thick letters.
If contrast is clear, a signboard can be memorized like the title card.
- When deciding the title size, check the effective picture size on your video monitor.

BEFORE MEMORIZING A TITLE
- Fix the title card and the video camera recorder.
- Use of an appropriate light is recommended for a better result.

RECORDING A TITLE

Function of the COLOR/MODE button
This button is used to select the title colour or title mode

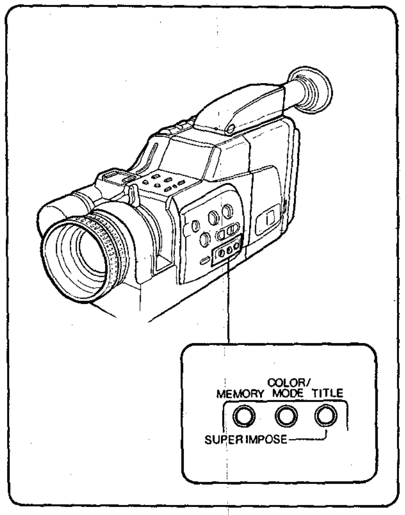
When the title is displayed	When the title is not displayed
Used as the COLOR button	Used as the MODE button
┌▸WHT▸YEL▸CYAN▸GRN┐ (white) (yellow) (green) └BLK◂BLUE◂RED◂VIO◂┘ (black) (violet)	┌NORMAL TITLE MODE◂┐ └▸T↑▸☐▸T☐▸🅃▸🅃↑┘ T↑ :TITLE SCROLL MODE ☐ :WIPE MODE T☐:WIPE TITLE MODE 🅃 :TITLE REVERSE MODE 🅃↑:TITLE REVERSE AND SCROLL MODE.
Each push of the COLOR/MODE button cyclically changes the colour or mode	

TO MEMORIZE THE TITLE

1. While pressing the small button, set the POWER switch to CAMERA.
2. Slide up the STANDBY switch to set the unit in the recording pause mode.
3. Point the camera to the title card and adjust the focus.
4. Press the MEMORY button to memorize the title.
5. Select the title colour while observing the colour indication in the viewfinder. Each push on the COLOR/MODE button cyclically changes the colour, as follows:

┌▸WHT(white)▸YEL(yellow)▸CYAN▸GRN(green)
└BLK(black)◂BLUE◂RED◂VIO(violet)◂┘

6. Press the TITLE button to turn off the title.



NOTES:
·The colour indication in the viewfinder is not recorded on the tapes.
·You can change the title colour even after starting the recording.

TO CHECK THE TITLE
To check the memorized title, press the TITLE button. To turn off the title, press the button again.

TO RECORD THE TITLE FROM THE BEGINNING
Press the TITLE button in recording pause mode, and then start recording.

TO RECORD DURING CAMERA RECORDING
Press the TITLE button at the point from which the title is to be inserted.
The memorized title will be recorded together with the picture.

TO STOP RECORDING THE TITLE
Press the TITLE button again. The picture recording will continue.

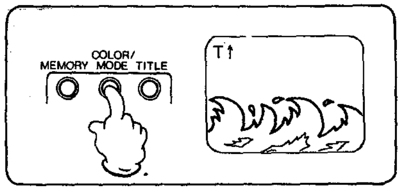
TO RECORD THE SAME TITLE SEVERAL TIMES
By repeating the above procedure, you can record the title as many times as desired.

TO SCROLL THE TITLE

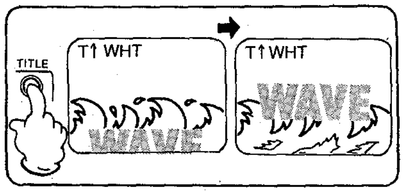
During recording, the memorized title can be scrolled from bottom to top.

TO CHECK THE SCROLL TITLE

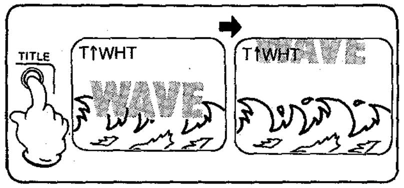
1. In the recording pause mode, press the COLOR/MODE button.
   ·The arrow mark will be displayed.



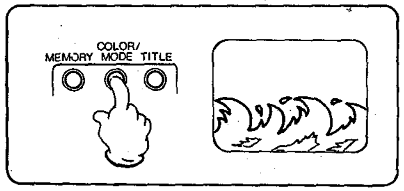
2. Press the TITLE button.
   ·The title will be displayed from bottom to centre.



3. Press the TITLE button again.
   ·The title will be displayed from centre to top.



4. Press the COLOR/MODE button five times.
   ·The arrow mark will disappear.



TO RECORD THE SCROLLED TITLE
1. In the recording pause mode, press the COLOR/MODE button.
   The arrow mark will be displayed.
2. Start the camera recording.
3. Press the TITLE button at the point from which the scrolled title is to be recorded.
4. After the title stops at the centre of the picture, press the TITLE button again.
   The title is scrolled from centre to top.

TO CLEAR THE SCROLL MODE
After recording, press the COLOR/MODE button five times.

IF YOU DO NOT WANT TO RECORD THE PICTURE FOR THE BACKGROUND
Point the recorder to a white, flat object such as a white wall, paper, etc.

TO CHANGE THE COLOUR OF THE TITLE
While the title is being scrolled or displayed at the centre, press the COLOR/MODE button.

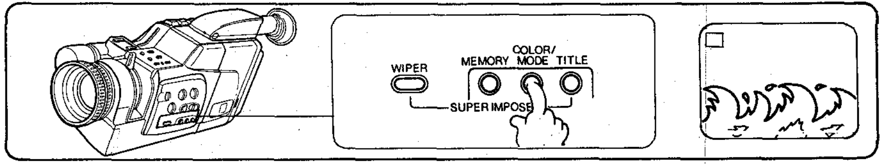
RECORDING A TITLE

WIPE MODE

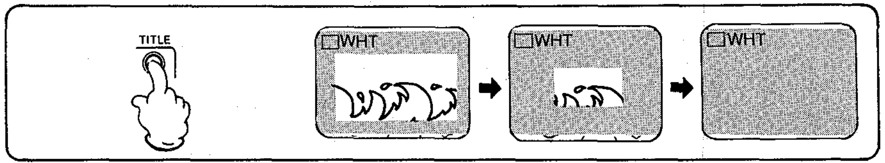
During recording, the colour can be glowing clouds from outline to centre or dissolve out from centre to outline

TO CHECK THE WIPE

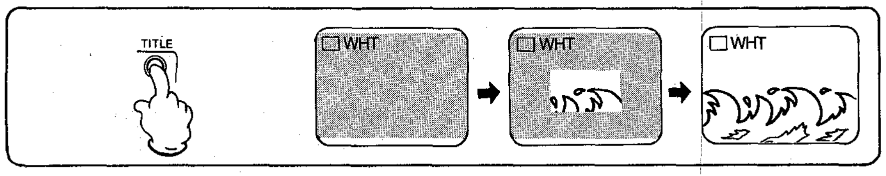
1. In the recording pause mode, press the COLOR/MODE button twice.
   The □ mark will be displayed.


WIPER
MEMORY
COLOR/ MODE
TITLE
SUPER IMPOSE

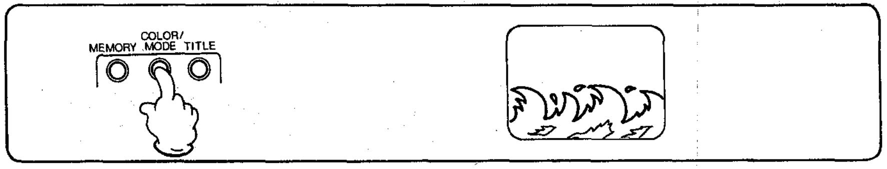
2. Press the TITLE button.
   The colour will be glowing clouds from outline to centre.


TITLE
□WHT
□WHT
□WHT

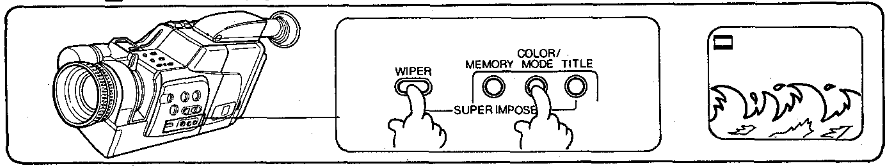
3. Press the TITLE button again.
   The colour will be dissolve out from centre to outline.


TITLE
□WHT
□WHT
□WHT

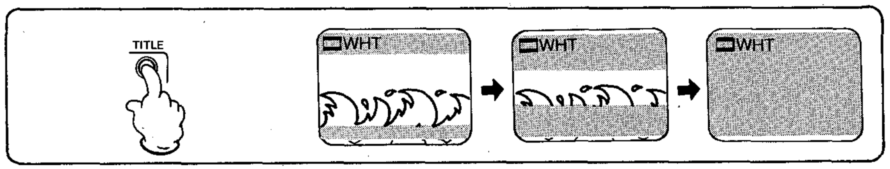
4. Press the COLOR/MODE button four times.
   The □ mark will disappear.


MEMORY
COLOR/ MODE
TITLE

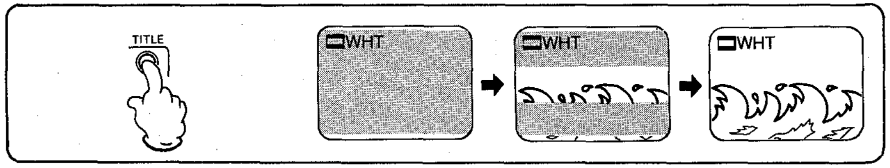
1. In the recording pause mode, press the COLOR/MODE button twice.
   Press the WIPE button once.
   The ▣ mark will be displayed.


WIPER
MEMORY
COLOR/ MODE
TITLE
SUPER IMPOSE

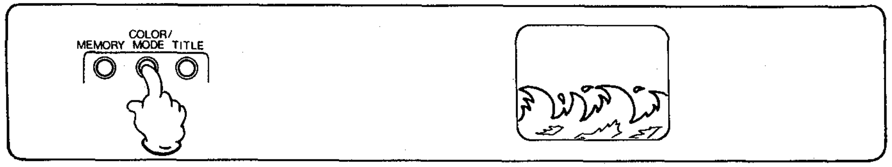
2. Press the TITLE button.
   The colour will be glowing clouds from top and bottom to centre.


TITLE
▣WHT
▣WHT
▣WHT

3. Press the TITLE button again.
   The colour will be dissolve out from centre to top and bottom


TITLE
▣WHT
▣WHT
▣WHT

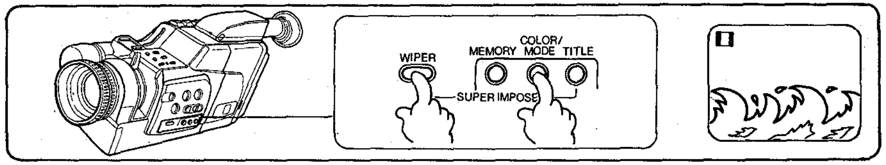
4. Press the COLOR/MODE button four times.
   The ▣ mark will disappear.


MEMORY
COLOR/ MODE
TITLE

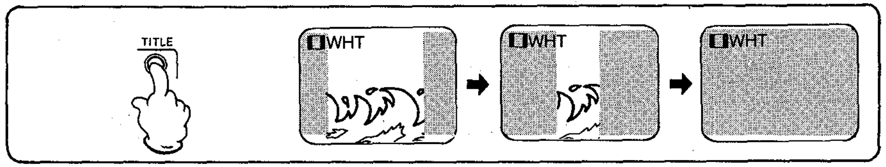
RECORDING A TITLE

WIPE MODE

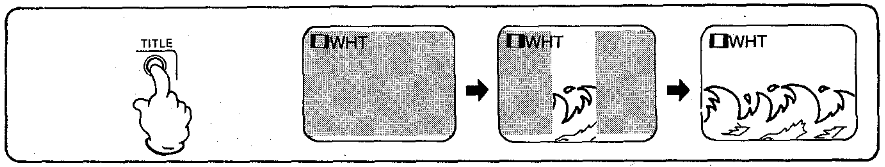
1. In the recording pause mode, press the COLOR/MODE button twice.
   Press the WIPE button twice.
   The ◫ mark will be displayed.


WIPER
MEMORY
COLOR/
MODE
TITLE
SUPER IMPOSE

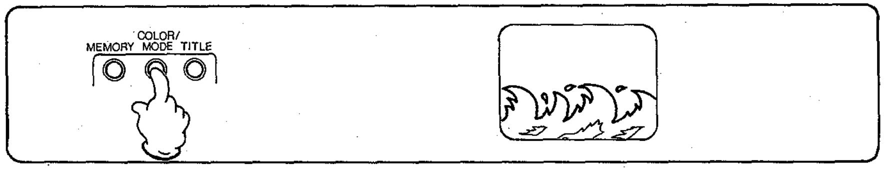
2. Press the TITLE button.
   The colour will be glowing clouds from right and left to centre.


TITLE
WHT
WHT
WHT

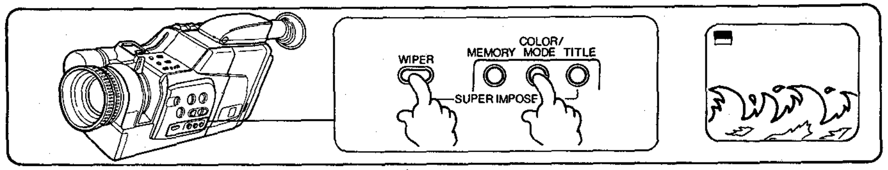
3. Press the TITLE button again.
   The colour will be dissolve out from centre to rigth and left.


TITLE
WHT
WHT
WHT

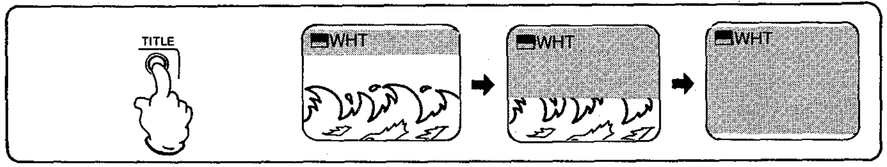
4. Press the COLOR/MODE button four times.
   The ◫ mark will disappear.


COLOR/
MEMORY
MODE
TITLE

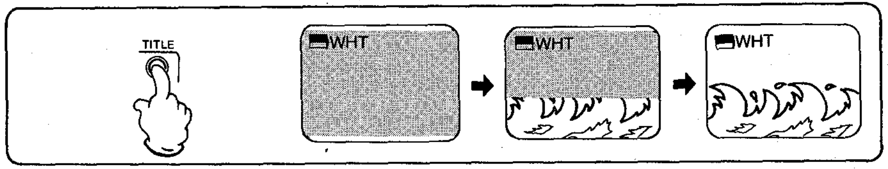
1. In the recording pause mode, press the COLOR/MODE button twice.
   Press the WIPE button three times.
   The ⬒ mark will be displayed.


WIPER
COLOR/
MEMORY
MODE
TITLE
SUPER IMPOSE

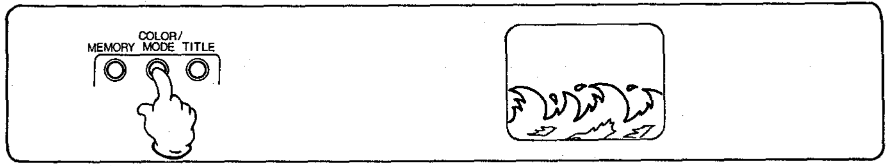
2. Press the TITLE button.
   The colour will be glowing clouds from top to bottom.


TITLE
WHT
WHT
WHT

3. Press the TITLE button again.
   The colour will be dissolve out from bottom to top.


TITLE
WHT
WHT
WHT

4. Press the COLOR/MODE button four times.
   The ⬒ mark will disappear.


COLOR/
MEMORY
MODE
TITLE

TO RECORD THE WIPE TITLE

1. In the recording pause mode, press the COLOR/MODE button twice
   The □ mark will be displayed.
   Press the WIPE button once.
   The ⊟ mark will be displayed.
   Press the WIPE button twice.
   The ◫ mark will be displayed.
   Press the WIPE button three times.
   The ⬒ mark will be displayed.
2. Start the CAMERA recording.
3. Press the TITLE button at the point from which the wipe is to be recorded.
4. After the colour stops at the glowing clouds of the monitor or viewfinder screen. Press the TITLE button again.
   The colour is dissolve out from centre to outline.

TO CLEAR THE WIPE MODE

After recording, press the COLOR/MODE button four times.

TO CHANGE THE COLOUR

If you do not want to record the picture for the background point the recorder to a white flat object such as a white wall, paper, etc.

While the title is being wipe or displayed glowing clouds of the viewfinder screen.

Press the COLOR/MODE button.

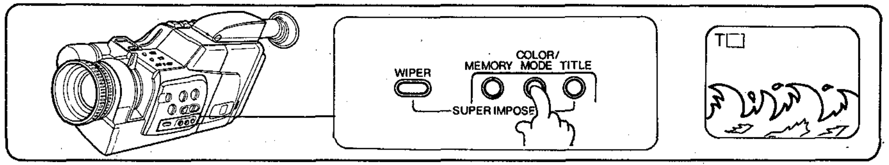
RECORDING A TITLE

WIPE TITLE MODE

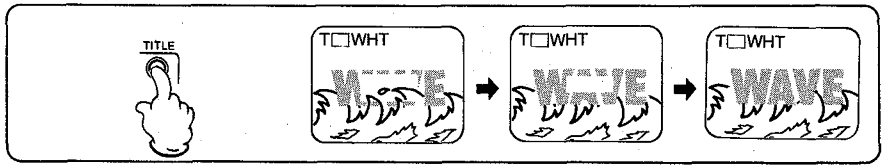
The colour scheme of the title and colour can be glowing clouds from outline to centre of the title.

TO CHECK THE WIPE TITLE

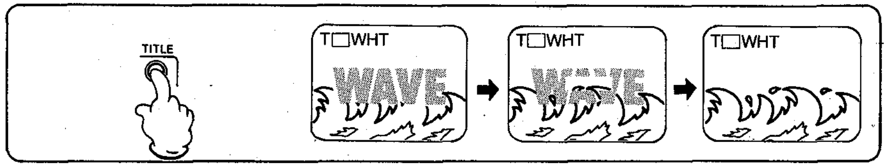
1. In the recording pause mode, press the COLOR/MODE button three times.
   The T□ mark will be displayed.


WIPER
COLOR/
MEMORY MODE TITLE
SUPER IMPOSE
T□

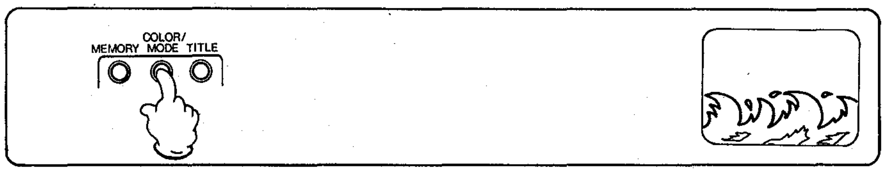
2. Press the TITLE button.
   The colour of the memory title will be glowing clouds from outline to centre.


TITLE
T□WHT
T□WHT
T□WHT
WAVE

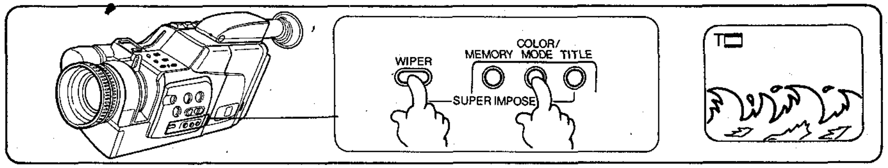
3. Press TITLE button again.
   The colour of the memory title will be dissolve out from centre to outline.


TITLE
T□WHT
WAVE
T□WHT
T□WHT

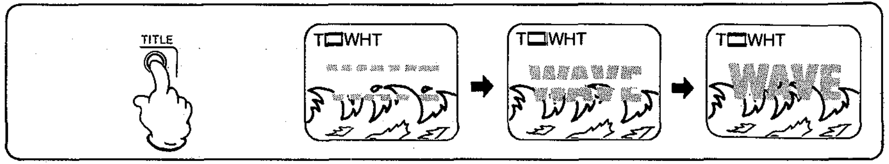
4. Press the COLOR/MODE button three times.
   The T□ mark will disappear.


COLOR/
MEMORY MODE TITLE

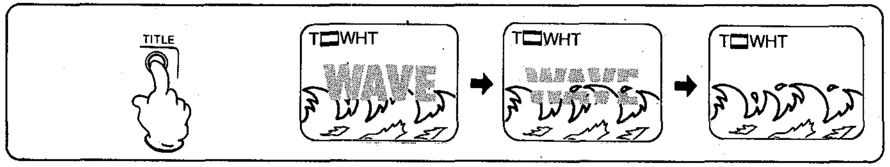
1. In the recording pause mode, press the COLOR/MODE button three times.
   Press the WIPE button once.
   The T□ mark will be displayed.


WIPER
COLOR/
MEMORY MODE TITLE
SUPER IMPOSE
T□

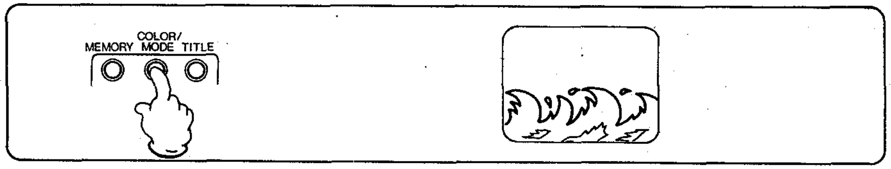
2. Press the TITLE button.
   The colour of the memory title will be glowing clouds from top and bottom to centre.


TITLE
T□WHT
T□WHT
T□WHT
WAVE

3. Press the TITLE button again.
   The colour of the memory title will be dissolve out from centre to top and bottom.


TITLE
T□WHT
WAVE
T□WHT
T□WHT

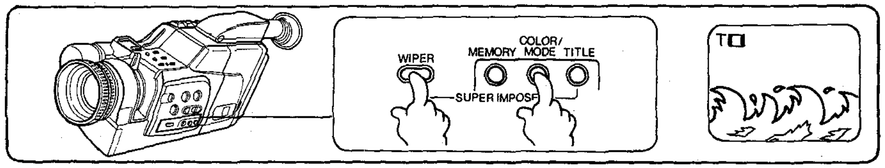
4. Press the COLOR/MODE button three times.
   The T□ mark will disappear.


COLOR/
MEMORY MODE TITLE

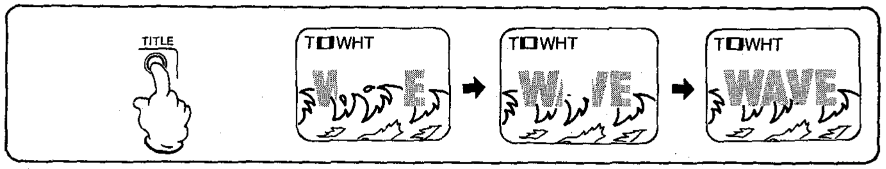
RECORDING A TITLE

WIPE TITLE MODE

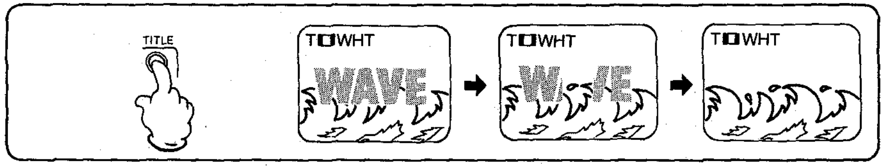
1. In the recording pause mode, press the COLOR/MODE button three times.
   Press the WIPE button twice.
   The T◫ mark will be displayed.


WIPER
COLOR/
MEMORY MODE TITLE
SUPER IMPOSE
T◫

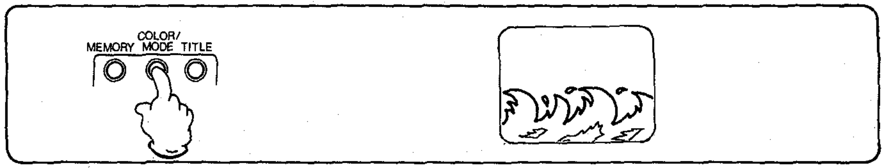
2. Press the TITLE button.
   The colour of the memory title will be glowing clouds from rigth and left to centre.


TITLE
T◫WHT
T◫WHT
T◫WHT
WAVE

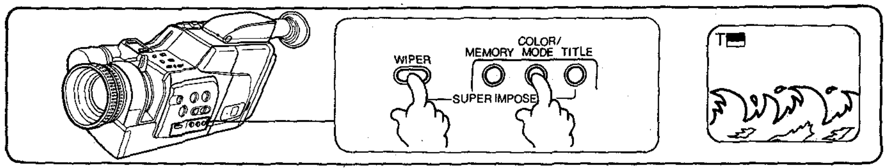
3. Press the TITLE button again.
   The colour of the memory title will be dissolve out from centre to right and left.


TITLE
T◫WHT
WAVE
T◫WHT
T◫WHT

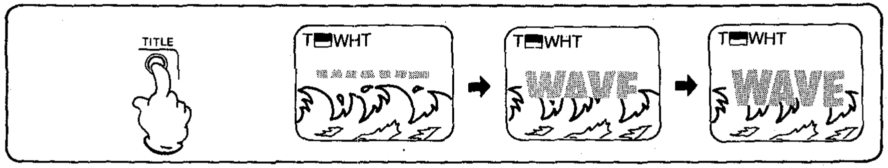
4. Press the COLOR/MODE button three times.
   The T◫ mark will disappear.


COLOR/
MEMORY MODE TITLE

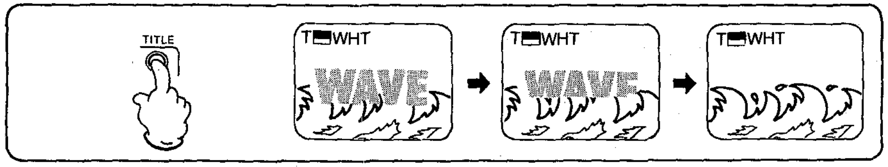
1. In the recording pause mode, press the COLOR/MODE button three times.
   Press the WIPE button three times.
   The T■ mark will be displayed.


WIPER
COLOR/
MEMORY MODE TITLE
SUPER IMPOSE
T■

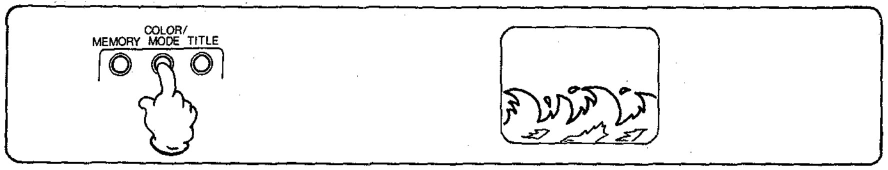
2. Press the TITLE button.
   The colour of the memory title will be glowing clouds from top to bottom.


TITLE
T■WHT
T■WHT
WAVE
T■WHT
WAVE

3. Press the TITLE button again.
   The colour of the memory title will be dissolve out from bottom to top.


TITLE
T■WHT
WAVE
T■WHT
WAVE
T■WHT

4. Press the COLOR/MODE button three times.
   The T■ mark will disappear.


COLOR/
MEMORY MODE TITLE

TO RECORD THE WIPE TITLE MODE

1. In the recording pause mode, Press the COLOR/MODE button three times.
   The T□ mark will be displayed.
   Press the wipe button once.
   The T⊟ mark will be displayed.
   Press the wipe button twice.
   The T◫ mark will be displayed.
   Press the wipe button three times.
   The T■ mark will be displayed.
2. Start the CAMERA recording.
3. Press the TITLE button at the point from which the wipe title is to be recorded.
4. After the colour stops at the glowing clouds of the memory title, press the TITLE button again.
   The colour of the memory title is dissolve out from centre to outline.

TO CLEAR THE WIPE TITLE MODE

After recording, Press the COLOR/MODE button three times.

TO CHANGE THE COLOR OF THE TITLE

While the title is being wiped title or displayed at glowing clouds of the memory title.
Press the COLOR/MODE button.

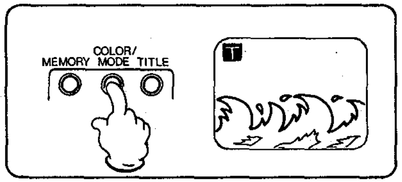
RECORDING A TITLE

TO REVERSE THE TITLE AND THE BACKGROUND

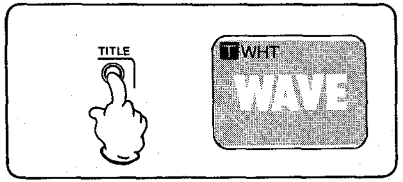
The colour scheme of the title and the background can be reversed.

TO CHECK THE REVERSED PICTURE.

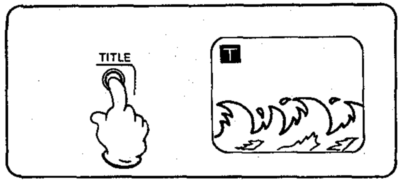
1. In the recording pause mode, press the *COLOR/MODE button four times.*
   The T mark will be displayed.



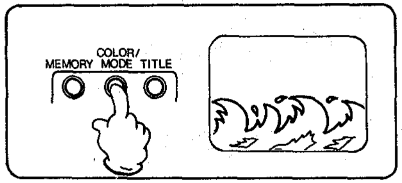
2. Press the TITLE button
   The reversed title and background will be displayed.



3. Press the TITLE button again.



4. Press the COLOR/MODE button twice.
   The T mark will disappear.



TO RECORD THE REVERSED PICTURE FROM THE BEGINNING

1. In the recording pause mode, press the COLOR/MODE button four times
   The T mark will be displayed.
2. Press the TITLE button.
3. Start the camera recording.
4. Press the TITLE button again to clear the reversed picture.

TO RECORD THE REVERSED PICTURE DURING RECORDING

1. In the recording pause mode, press the COLOR/MODE button four times
   The T mark will be displayed.
2. Start the camera recording.
3. Press the TITLE button at the point from which the reversed picture is to be recorded.
4. Press the TITLE button again to clear the reversed picture.

TO CLEAR THE REVERSE MODE
After recording, press the COLOR/MODE button twice.

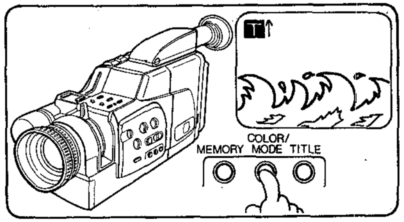
IF YOU DO NOT WANT TO RECORD THE PICTURE FOR THE BACKGROUND
Point the recorder to a white, flat object such as a white wall, paper, etc.

TO CHANGE THE COLOUR OF THE BACKGROUND
While the title is being displayed, press the COLOR/MODE button.

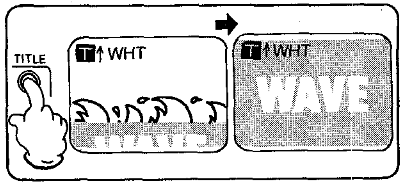
TO SCROLL THE REVERSED TITLE

To check that the reversed title is scrolled

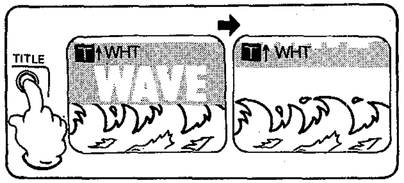
1. In the recording pause mode, press the COLOR/MODE button five times.
   The T↑ mark will be displayed.



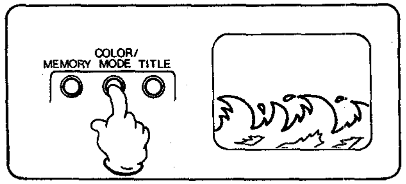
2. Press the TITLE button.
   The reversed picture will be displayed from bottom to centre.



3. Press the TITLE button again.
   The title will be displayed from centre to top.



4. Press the COLOR/MODE button once.
   The T↑ mark will disappear.



TO RECORD THE REVERSED AND SCROLLED TITLE

1. *In the recording pause mode, press the* COLOR/MODE button five times.
   The T↑ mark will be displayed.
2. Start the camera recording.
3. Press the TITLE button at the point from which the scrolled title is to be recorded.
4. After the reversed title stops at the centre of the picture, press the TITLE button again.
   The reversed title is scrolled from centre to top.

TO CLEAR THE REVERSED SCROLL MODE
After recording, press the COLOR/MODE button once.

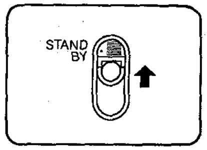
IF YOU DO NOT WANT TO RECORD THE PICTURE FOR THE BACKGROUND
Point the recorder to a white, flat object such as a white wall, paper, etc.

TO CHANGE THE COLOUR OF THE BACKGROUND
While the title is being scrolled or displayed at the centre, press the COLOR/MODE button.

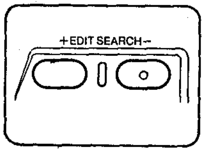
EDIT SEARCH (INSERT)

You can insert(record) video and audio simultaneously from the camera onto any recorded tape.
·Monitor the picture being inserted on the viewfiner screen.

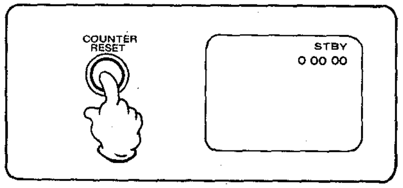
1. While pressing the small button, set the POWER switch to CAMERA and slide the STANDBY switch up to set the CAMCORDER to recording pause mode.



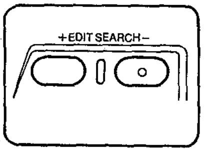
2. Keep pressing the "+" or "−" side of the EDIT SEARCH button and release the button at the point where the insert should end. The CAMCORDER will be set to recording pause mode.



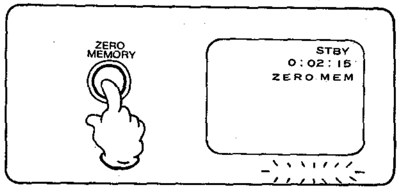
3. Display the counter on the viewfinder screen and press the COUNTER RESET button.
The counter is reset to zero.
(For an accurate ending point, press the COUNTER RESET button immediately after the EDIT SEARCH button is released and while the still picture is displayed)



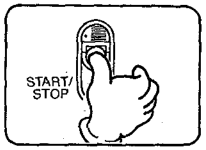
4. Keep pressing the "−" side of the EDIT SEARCH button and release the button at the point where the insert should begin.



5. Press the ZERO MEMORY button.
The insert ending point is stored in memory.



6. Press the START/STOP button. Insert recording will begin.
The insert recording will stop automatically near the counter zero point.



TO CANCEL ZERO MEMORY MODE
Press the ZERO MEMORY button so that the ZERO MEMORY indicator disappears.

TO CHANGE THE INSERT ENDING POINT
Press the ZERO MEMORY button to turn off the ZERO MEMORY indicator and repeat steps 2 through 5 above.

TO INSERT THE DATE OR TIME
Follow steps 1 through 5 above, press the DATE or TIME button to display the date or time indication on the viewfinder screen and then press the START/STOP button.

NOTES:
1. ZERO MEMORY mode is cancelled automatically in the following cases.
·When an insert recording is completed.
·When the position of the POWER switch is changed.
·When the power is turned off.
·When the cassette is ejected.
2. To restore it, press the ZERO MEMORY button again.
·When recording pause mode lasts for approximately 5 minutes, pause mode will be automatically released and the unit will be turned off.
·When the inserted tape is played back, the picture may be distorted at the end of the inserted programme

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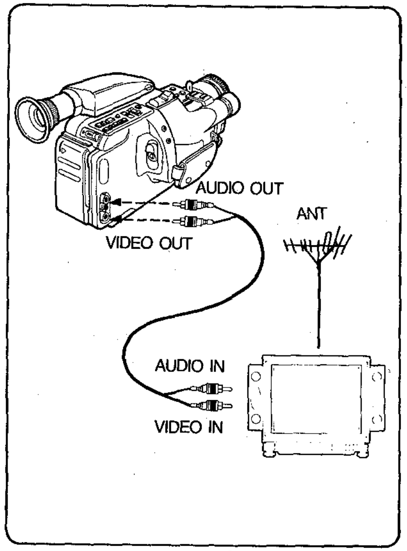
VTR OPERATION

PREPARATIONS FOR VTR OPERATION

1. Connecting a TV with audio/video connectors.

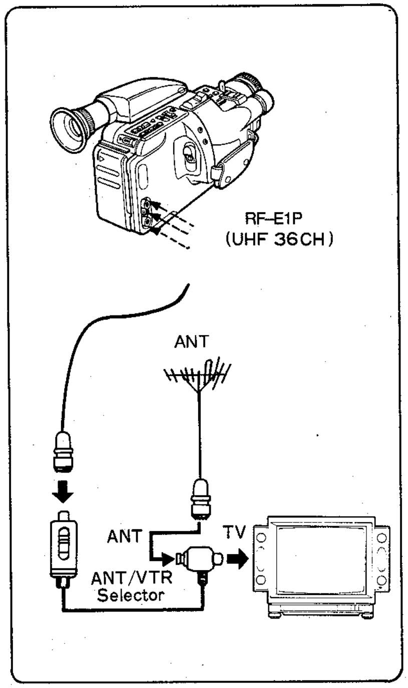


1. Leave the TV aerial cable connected to the TV.
2. Connect the CAMCORDER to the TV using an optional connecting cable to match the connectors on the TV.
3. Set the TV/VIDEO selector button on the TV to "VIDEO" for viewing a playback picture, "TV" for viewing TV programmes

NOTE:
When the TV has stereo audio inputs, use an optional connecting cord.

PREPARATIONS FOR VTR OPERATION

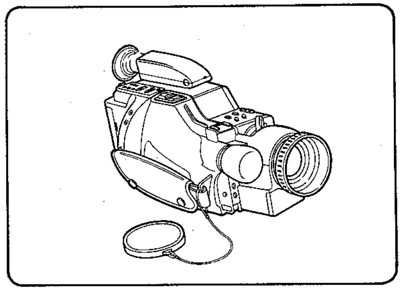
2. Connecting a TV without audio/video connectors (WITH THE RF-E1P)



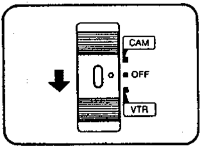
1. Connect the RF UNIT(RF-E1P) to the CAMCORDER.
2. Connect the aerial, CAMCORDER and TV to the ANT/VTR selector(supplied) as illustrated.
   Use a 75-ohm coaxial cable for aerial connetion.
3. Set the selector switch on the ANT/VTR selector to "VTR" for viewing a playback picture,
   "ANT" for viewing TV programmes.
4. Select the channel selector switch on the RF UNIT to UHF 36 CH and select the same channel on the TV

PLAYBACK

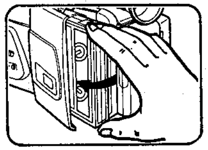
Turn on the TV(or colour monitor), and select the programme position for viewing a playback picture(or set the TV/VIDEO selector to VIDEO).



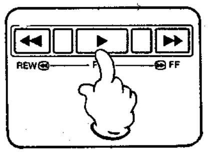
1. While pressing the small button, set the POWER switch to VTR.



2. Insert a cassette.



3. Press the ▶ button.
   Playback will start.



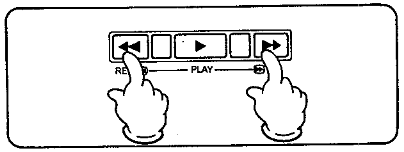
TO STOP THE TAPE PRESS THE ■ BUTTON.
After using, be sure to set the POWER siwtch on the CAMCORDER to OFF.

TO VIEW A STILL PICTURE
Press the ❚❚ button during playback. To resume playback, press the ❚❚ button again or press the ▶ button.

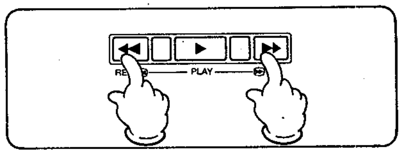
MONITORING A HIGH-SPEED PICTURE DURING PLAYBACK

During playback

1. In the playback mode, press the ▶▶ or ◀◀ button.
   The picture will be monitored at high speed as long as it is kept pressed.

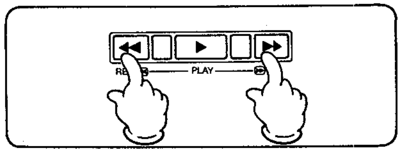


2. Release the ▶▶ or ◀◀ button at the desired point.
   Normal playback will resume.

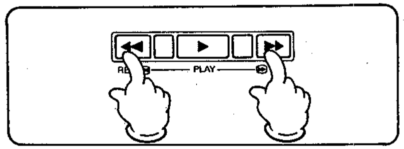


During fast-forward or rewind

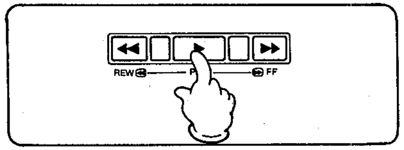
1. Press the ▶▶ button in fast-forward mode or press the ◀◀ button in rewind mode.
   The Picture is displayed while the button is kept pressed.



2. Release the ▶▶ or ◀◀ button to resume normal fast-forward or rewind mode.



3. Press the ▶ button to play back.



NOTES:
·If you move the position of the POWER switch during playback, the tape will stop. When you move the POWER switch to CAMERA in the Playback pause mode, however, the unit will enter recording pause mode.
·When the pause mode lasts for 5 minutes or more, the unit will automatically enter the stop mode.
·Streaks will appear and the sound will be muted in the still picture and high-speed picture.
·When a tape is recorded in SP mode, a still picture and high-speed picture may be noisy with many streaks and become black and white.
Streaks will be wider than those of an LP-recorded tape.

TO DISPLAY THE INDICATION ON THE VIEWFINDER SCREEN ON THE TV
Press the DATA SCREEN button.
The indication on the viewfinder screen is superimposed on the TV programme.
It is convenient to check the indication on the TV screen when the playback picture is viewed on the TV.
To clear the indication, press the DATA SCREEN button again.

NOTE:
To edit from the CAMCORDER to another VTR, clear the indication on the TV, or the indication will be recorded with the picture.

USE OF THE TAPE COUNTER

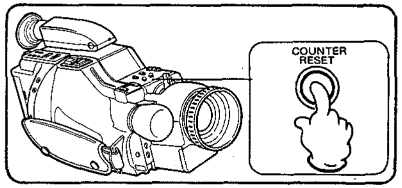
During recording or playback, the digits on the counter indicate the actual recording or playback time.

TO RESET THE COUNTER
Press the COUNTER RESET button at the beginning of the tape so that the counter shows "0:00:00:" By noting the counter reading at a particular point, you can easily find that point later by referring to the tape counter.

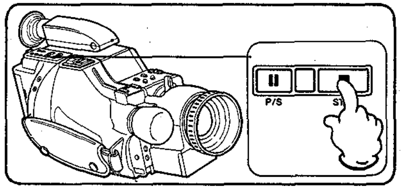
NOTES:
- The counter reading and the point of the tape may not correspond exactly. Use the counter as a guide.
- The counter does not operate for a blank, unrecorded portion of a tape.
- There will be a time lag of several seconds on the counter reading after repeated fast-forward and rewind operations.
- There will be also a time lag of several seconds when the tape recorded in LP and SP modes mixed or the tape having a blank portion between the recorded portions is played back.

TO RETURN TO ZERO POSITION

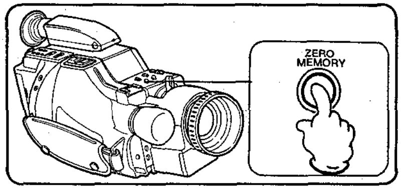
1. During recording or playback, press the COUNTER RESET button at the point you later want to locate.



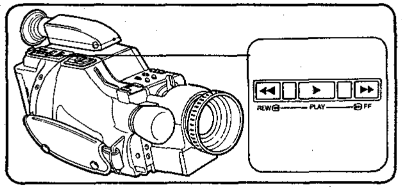
2. Press the ■ button when the playback has finished.



3. Press the ZERO MEMORY button. The "ZERO MEM" indicator will blink in the display window.



4. Press the ◀◀ or ▶▶ button.
The tape will be rewound of sent forward and stop automatically when the counter reaches approximately zero.



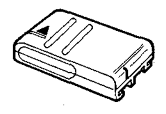
TO CANCEL ZERO MEMORY MODE
Press the ZERO MEMORY button so that the ZERO MEM indicator disappears.

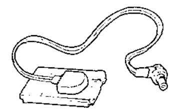
NOTE:
- The ZERO MEMORY button does not function during recording or playback mode.
- Be sure to press the ZERO MEMORY button when the tape is stopped.
- The ZERO MEMORY mode is cancelled automatically once the tape is rewound or sent forward to zero.

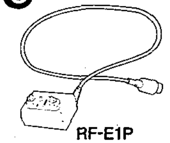
ACCESSORIES

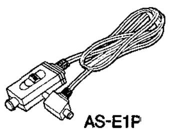
Check to make sure you have the following components and accessories (besides the CAMCORDER unit itself) before disposing of the packing material.
·To prevent fire or shock hazard and annoying interference, use only recommended accessories.

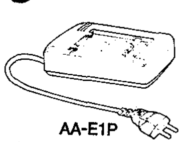
1. Ni-Cd RECHARGEABLE BATTERY PACK (1 HOUR TYPE)
2. AC POWER ADAPTOR DC CABLE
3. RF UNIT
4. ANT/VTR SELECTOR
5. AC POWER ADAPTOR
6. SHOULDER STRAP
7. LITHIUM BATTERY
8. 8mm VIDEO CASSETTE (P5-60)

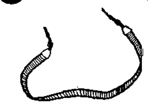
❶

NB-E60A

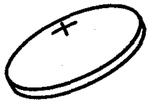
❷

DC-E1

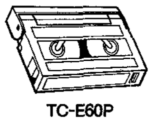
❸

RF-E1P

❹

AS-E1P

❺

AA-E1P

❻

SS-E2

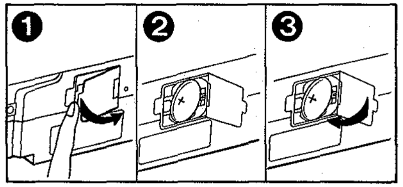
❼

CR-2025

❽

TC-E60P

USING LITHIUM BATTERY

This CAMCORDER uses a lithium battery to activate the clock and keep a title in memory. Before operating the CAMCORDER for the first time, install the supplied lithium battery.

To insert the lithium battery:
1. Open the cover of the lithium battery compartment on the bottom.
2. Install the supplied CR-2025 lithium battery with the "+" side facing out.
3. Close the cover.



To remove the lithium battery
Press the side of the battery in the direction as indicated for installation.

LITHIUM BATTERY LIFE
Approximately 1 year in normal operation.
When the lithium battery becomes weak, the time indication will blink on the viewfinder screen for about 5 seconds after the POWER switch has been set to CAMERA. In this case, replace the battery with CR2025 lithium battery.
After replacing the battery, readjust the date, time and title. (If the battery is replaced with the battery pack attached, the readjustments are not necessory.)

NOTE:
- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.

1-6. REPLACEMENT OF CHIP PARTS

1. Some resistors, shorting jumpers (0 Ω resistance), ceramic capacitors, transistors, and diodes are chip parts. These chip parts cannot be reused after they are once removed.

2. Additional compactness is achieved by using subminiature chip parts for certain circuit elements. When replacing these parts, note the cautions outlined below.

3. Required tools :
   1) Fine tipped, well insulated soldering "pencil", about 30 Watts.
   2) Tweezers
   3) Blower type hair dryer.

4. Soldering cautions :
   1) Do not apply heat for more than 3 seconds.
   2) Avoid using a rubbing stroke when soldering.
   3) Discard removed chips ; do not reuse them.
   4) Supplementary cementing is not required.
   5) Use care not to scratch or otherwise damage the chips.

5. Removal (resistors, capacitors, etc.) :
   1) Melt the solder at one side.

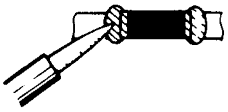


Fig. 1

2) Grasp the part with tweezers and melt the solder at the other side.

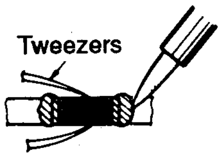


Fig. 2

3) Remove the part with a twisting motion.

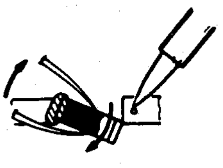


Fig. 3

6. Removal (transistors, diodes, etc.) :
   1) Melt the solder of one lead.

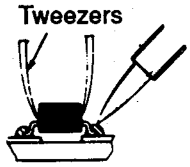


Fig. 4

2) Lift the side of that lead upward.

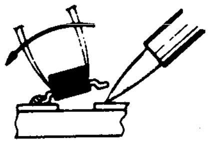


Fig. 5

3) Simultaneously heat solder of the two remaining leads and lift part to remove.

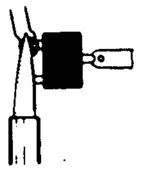


Fig. 6

7. Preheating (except for semiconductors) :
   Immediately before installing new resistors or capacitors, use a blower type hair dryer and preheat the part for about two minutes at approximately 150℃.

8. Replacement :
   1) Presolder the contact points of the circuit pattern.

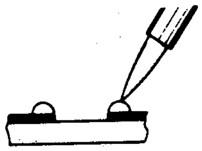


Fig. 7

2) Press the part downward with tweezers and apply the soldering pencil as indicated in the figure.

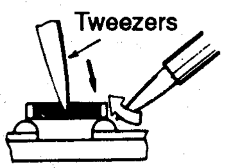


Fig. 8

1-7. ABBREVIATION

ATF	: Automatic Track Finding
AC	: Alternating Current
AGC	: Automatic Gain Control
AMP	: Amplifier
ASS'Y	: Assembly
AUTO	: Automatic
AF	: Automatic Focus
A/D	: Analog/Digital
APC	: Automatic Fedestal Control, Automatic Phase Control
ACK	: Automatic Color Killer
ACC	: Automatic Color Control
AFC	: Automatic Frequency Control
AFM	: Audio Frequency Modulation
ATT	: Attenuator
ADJ	: Adjust
ADD	: Adder
AUX	: Auxiliary

B	: Base
BATT	: Battery
BLK	: Black, Blanking
BLU	: Blue
BPF	: Band Pass Filter
BRM	: Brown
B/W	: Black and White
BLC	: Back light Compensation
B.F	: Burst Flag
BUFF	: Buffer

CAP	: Capstan
CASS(CC)	: Cassette
CCD	: Charge Coupled Device
CE	: Chip Enable
CH	: Channel
CHROMA or C	: Chrominance
COM	: Common
COMB	: Comb Filter
CN	: Connector
CTL	: Control
CRT	: Cathode Ray Tube
CAM	: Camera
CAMCORDER	: Camera Recorder
COMP	: Composite
CS	: Chip Selector
CM	: Capstan Motor
CG	: Character Generator
CLP	: Clamp
CNR	: Chroma Noise Reduction
CLK	: Clock

D	: Drum
dB	: Decibel (Measurement Unit)
DC	: Direct Current
DEMOD	: Demodulator
DOC	: Drop out Compensation
DD	: Direct Current Drive
DM	: Drum Motor
DET	: Detect
DL	: Delay Line
D/A	: Digital/Analog

E	: Emitter
E-E	: Electronic to Electronic
EMP	: Emphasis
ENV	: Envelope
EQ	: Equalizer
EXT	: External
EVF	: Electronic View Finder
EVR	: Ever

F	: Fuse
F.F	: Fast Forward, Flip-Flop
FE	: Flying Erase
FET	: Field Effect Transistor
FG	: Frequency Generator
FM	: Frequency Modulation
Freg.	: Frequency
FWD	: Forward
FPS	: Forward Picture Search
FL	: Filter

G	: Gate, Grid
GEN	: Generator
GND	: Ground
GRN	: Green
GRY	: Gray
GC	: Gain Control

H	: Hour, High, Horizon
HG	: Hall Generator
HPF	: High Pass Filter
Hz	: Hertz
HMS Counter	: Hour Minute Second Counter
HD	: Head, Horizontal Drive

IC	: Integrated Circuit
ID	: Identification
IR	: Infrared

INT	: Interrupter
I/O	: Input/Output
IRE	: Institute of Radio Engineers
L	: Low
LCD	: Liquid Crystal Display
LED	: Light Emitting Diode
LP	: Long Play
LM	: Loading Motor
LPF	: Low Pass Filter
M	: Mega
MAX	: Maximum
MIC	: Microphone
MIN	: Minimum
MIX	: Mixer
MT	: Motor
ME	: Metal Evaporated
MP	: Metal Particle, Mask Pulse
MTX	: Matrix
MOD	: Modulation
NR	: Noise Reduction
NC	: Not Connected
NAND	: NOT-AND
OP AMP	: OPerational Amplifier
ORN	: Orange
OSC	: Oscillation
PB	: Play Back
PCM	: Pulse Coded Modulation
PG	: Pulse Generator
PLA	: Programmable Logic Array
PLL	: Phase Locked Loop
P-P	: Peak to Peak
PRE AMP	: Pre-Amplifier
P/S	: Pause/Still
PWM	: Pulse Width Modulation
PWR	: Power
REF	: Reference
REC	: Recording
REMOCON	: Remote Control
REV	: Reverse
REW	: Rewind
ROM	: Read Only Memory
RST	: Reset
RPS	: Reverse Picture Search
RF	: Radio Frequency
REG	: Regulation
RP	: REC/PB
SN	: Signal to Noise Ratio
SP	: Standard Play
SW	: Switch
SYNC	: Synchronization
SYSCON	: System Control
SENS	: Sensor
SI	: Serial Input
SO	: Serial Output
SCK	: Serial Clock
S FG	: Supply FG
STB	: Strobe
SHP	: Sharpness
T	: Tele
TP	: Test Point
TR	: Transistor, Trimmer
T FG	: Take-up FG
UNREG	: Unregulation
V	: Volt, Vertical
V-sync.	: Vertical-sync.
VCO	: Voltage Control Oscillator
VR	: Variable Resistor
VXO	: Variable Crystal Oscillator
VTR	: Video Tape Recorder
VP	: VTR Power
VA	: Video Audio
W	: Watt, Wide, Wire
WHT	: White
X-TAL	: Crystal
Y/C or YC	: Luminance/Chrominance
YEL	: Yellow

2. DISASSEMBLY

2-1. INSTRUMENT DISASSEMBLY

2-1-1. Cover-Housing Ass'y Removal

1. Remove two screws ①
2. Disconnect Cover Housing Ass'y in the direction of the arrow to remove it.

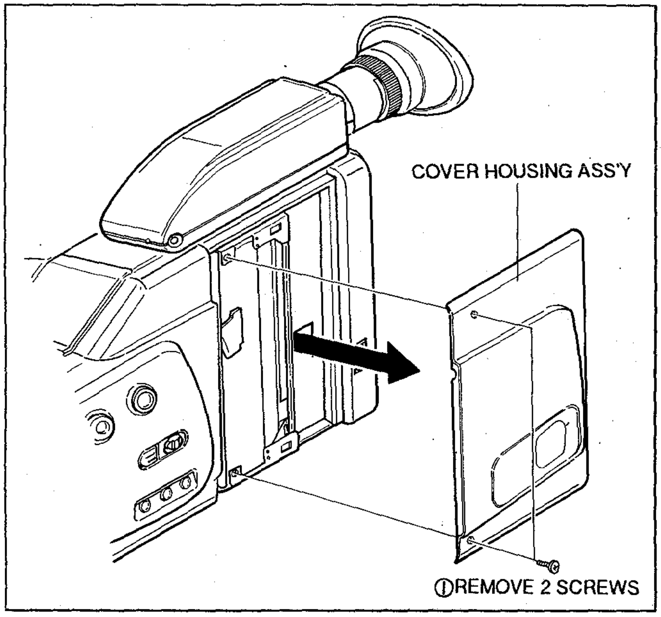

COVER HOUSING ASS'Y
①REMOVE 2 SCREWS

Fig. 1

2-1-2. Cover-Lens Ass'y Removal

1. Remove two screws ①, one screw ②, and one screw ③.
2. Disconnect Cover Lens Ass'y in the direction of the arrow to remove it.

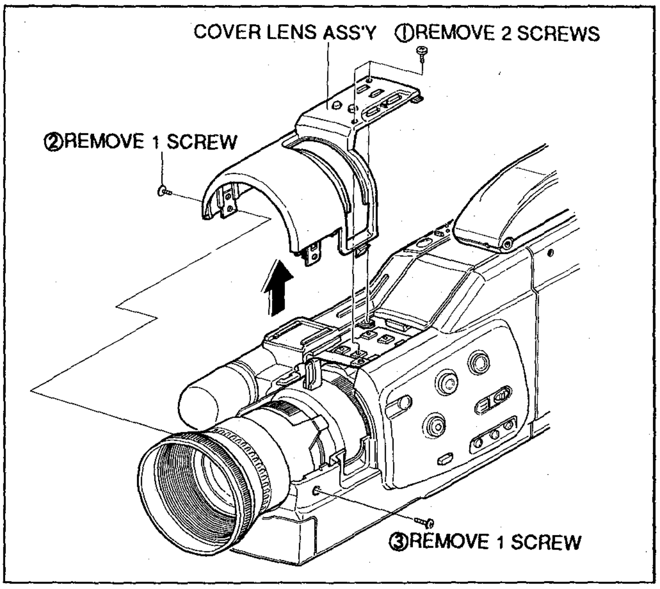

COVER LENS ASS'Y
①REMOVE 2 SCREWS
②REMOVE 1 SCREW
③REMOVE 1 SCREW

Fig. 2

2-1-3. Body Upper Ass'y Removal

1. Remove one screw ①, three screws ②, three screws ③, and one screw ④.
2. Disconnect AF-Filter ⑤ in the direction of arrow "A" to remove it.
3. Disconnect Body Upper Ass'y ⑥ in the direction of arrow "B" to remove it.
4. Disconnect connector ⑦ from the digital board.

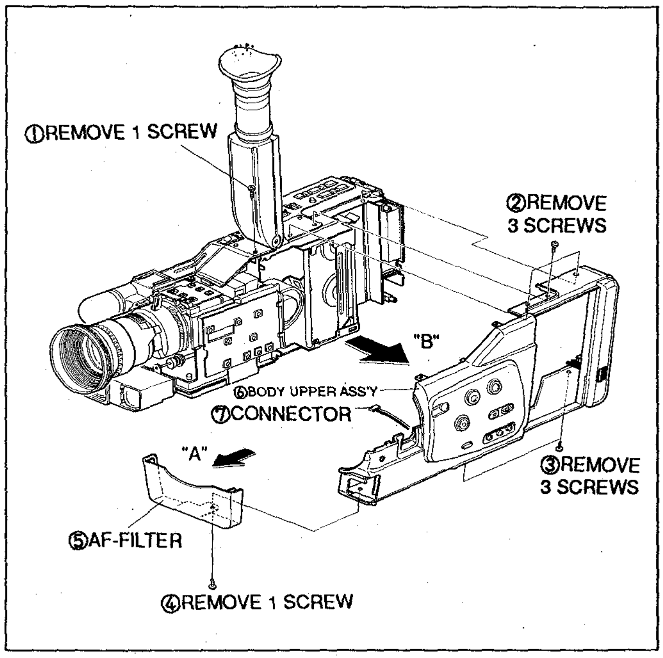

①REMOVE 1 SCREW
②REMOVE
3 SCREWS
"B"
⑥BODY UPPER ASS'Y
⑦CONNECTOR
"A"
③REMOVE
3 SCREWS
⑤AF-FILTER
④REMOVE 1 SCREW

Fig. 3

2-1-4. Body Lower Ass'y Removal

1. Remove one screw ①, two screws ②, one screw ③, and one screw ④.
2. Disconnect Body Lower Ass'y in the direction of arrow to remove it.
3. Disconnect three connectors ⑥(CN901), ⑦(CN751) and ⑧ (CN504).
4. Remove cover jack ⑨.

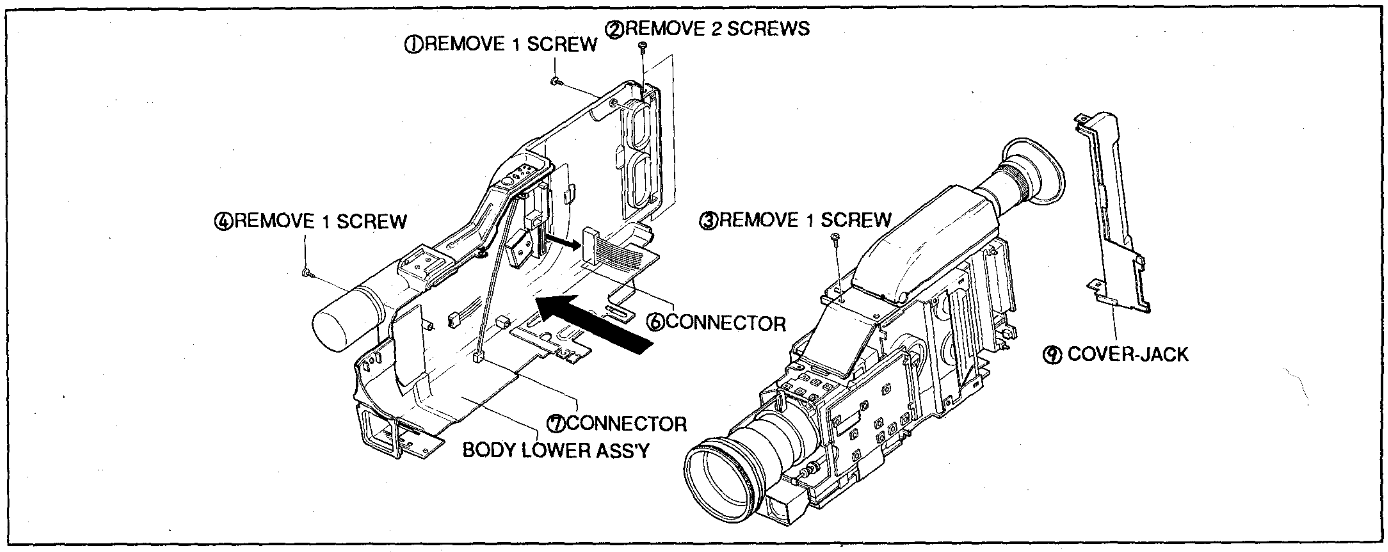

①REMOVE 1 SCREW
②REMOVE 2 SCREWS
④REMOVE 1 SCREW
③REMOVE 1 SCREW
⑥CONNECTOR
⑨ COVER-JACK
⑦CONNECTOR
BODY LOWER ASS'Y

Fig. 4

2-1-5. EVF and Body Top Ass'y Removal

1. Disconnect connector ① from the VTR Main PCB.
2. Remove two screws ②.
3. Disconnect Body Top Ass'y and EVF Ass'y.

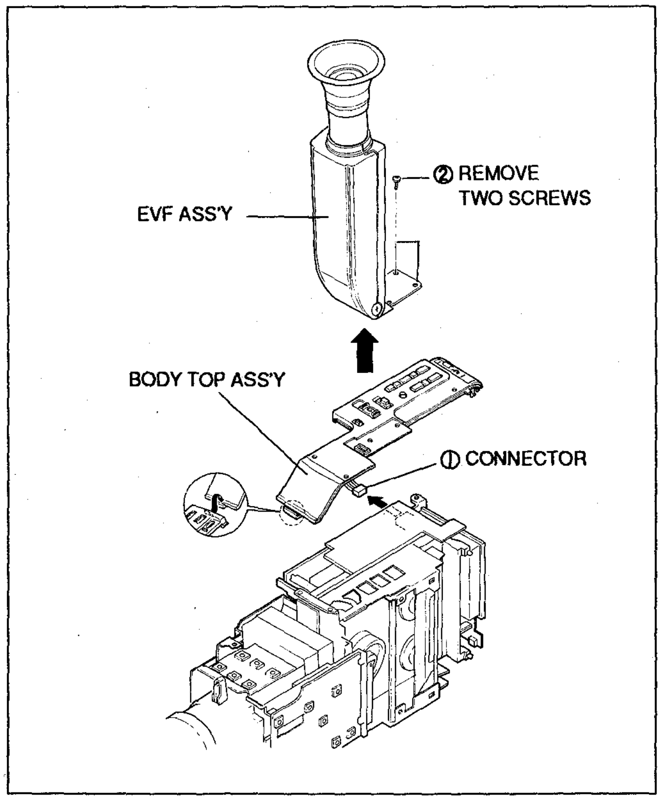

② REMOVE
TWO SCREWS
EVF ASS'Y
BODY TOP ASS'Y
① CONNECTOR

Fig. 5

2-1-6. EVF Ass'y Removal

1. Disconnect Ring-EVF lens in the direction of arrow "A" to remove it.
2. Remove three screws ①.
3. Disconnect case Bottom EVF ② in the direction of arrow "B" to remove it.

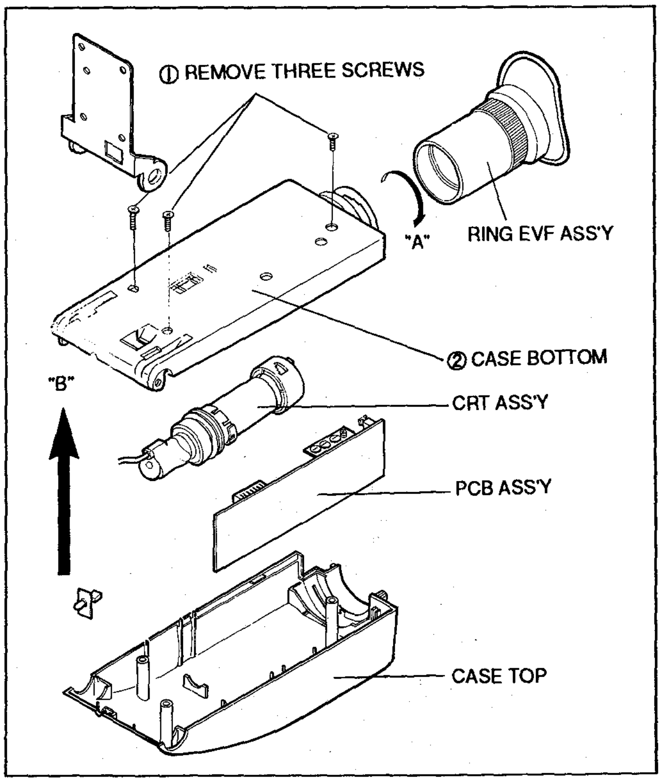

① REMOVE THREE SCREWS
"A"
RING EVF ASS'Y
② CASE BOTTOM
"B"
CRT ASS'Y
PCB ASS'Y
CASE TOP

Fig. 6

2-1-7. VTR Section Removal and CAMERA Section Removal (Fig.7)

1. Remove one screw ① and two screws ②.
2. Disconnect three connectors ③ ,④ ,⑥ and remove three tabs ⑤.
3. Remove four screws ⑧, ⑨.
4. Disconnect two connectors ⑩ and disconnect Camera Ass'y ④ in the direction of arrow "A" to remove it.

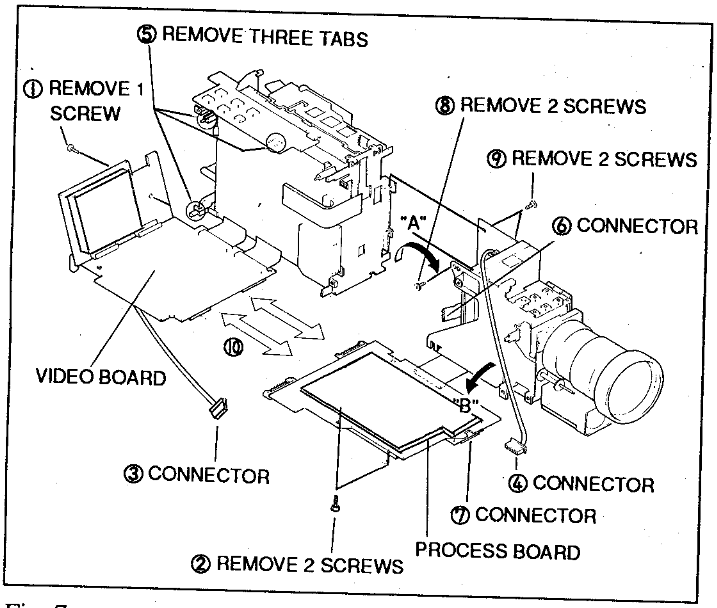

⑤ REMOVE THREE TABS
① REMOVE 1 SCREW
⑧ REMOVE 2 SCREWS
⑨ REMOVE 2 SCREWS
"A"
⑥ CONNECTOR
⑩
VIDEO BOARD
"B"
③ CONNECTOR
④ CONNECTOR
⑦ CONNECTOR
PROCESS BOARD
② REMOVE 2 SCREWS

Fig. 7

2-1-9. CAMERA Section Removal (Fig. 9, 10)

1. Disconnect connector ①. (Fig.9)
2. Disconnect two connectors ⑦, ⑨ . (Fig. 10)
3. Remove two screws ③. (Fig. 10)
4. Disconnect PCB in the direction of arrow "A" to remove it. (Fig. 10)

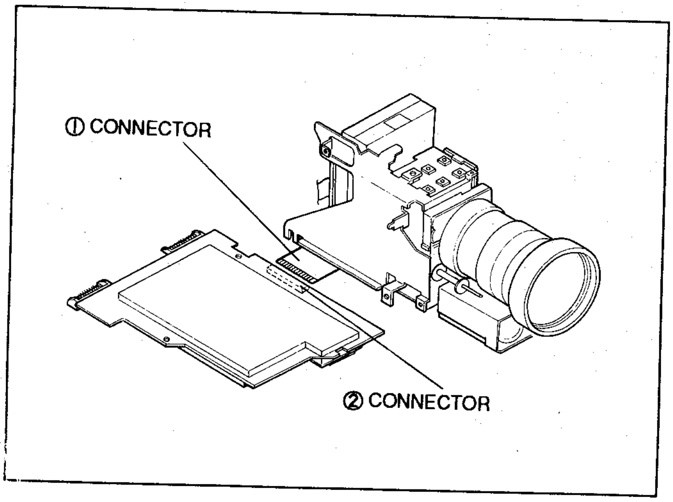

① CONNECTOR
② CONNECTOR

Fig. 9

2-1-8. VTR Section Removal (Fig. 8)

1. Remove two screws ① and disconnect connector ③.
2. Disconnect Function PCB ② in the direction of arrow "A" to remove it.
3. Remove one screw ⑤.
4. Disconnect four connectors (⑧, ⑨, ⑩, ⑪).
5. Disconncet PCB ⑦ in the direction of arrow "B" to remove it.

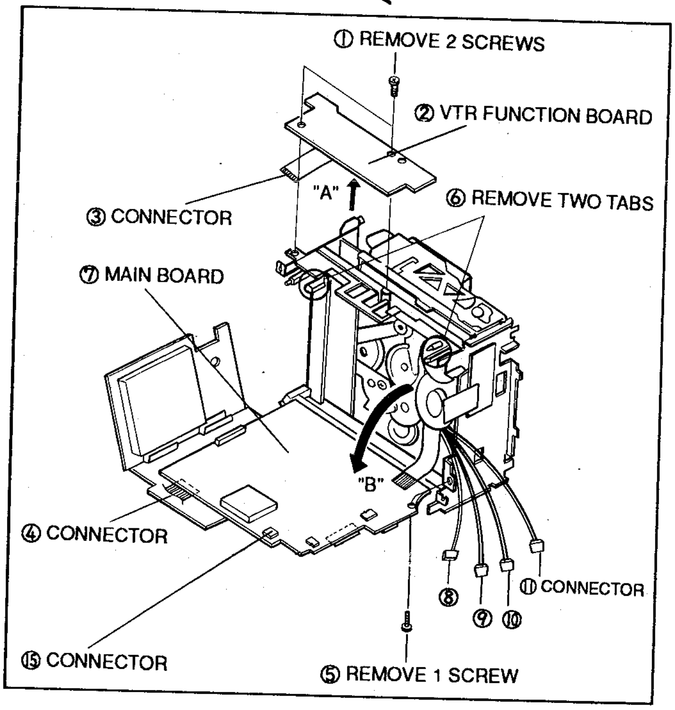

① REMOVE 2 SCREWS
② VTR FUNCTION BOARD
"A"
⑥ REMOVE TWO TABS
③ CONNECTOR
⑦ MAIN BOARD
"B"
④ CONNECTOR
⑪ CONNECTOR
⑧
⑨ ⑩
⑮ CONNECTOR
⑤ REMOVE 1 SCREW

Fig. 8

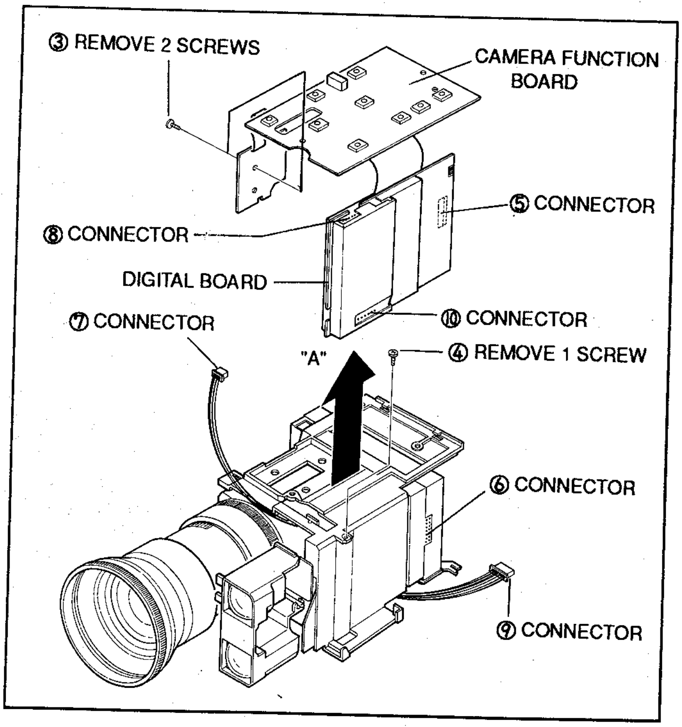
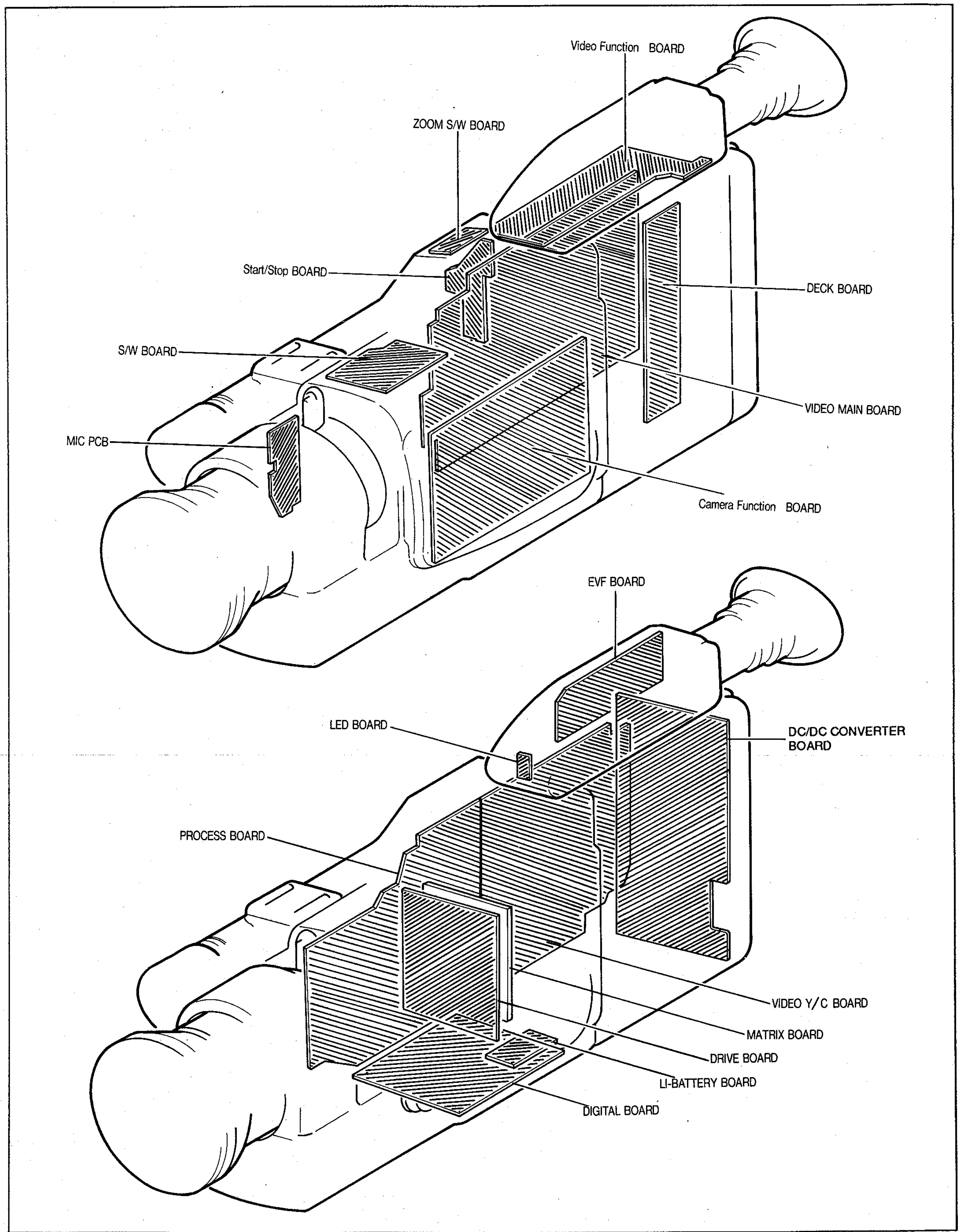

③ REMOVE 2 SCREWS
CAMERA FUNCTION BOARD
⑤ CONNECTOR
⑧ CONNECTOR
DIGITAL BOARD
⑦ CONNECTOR
⑩ CONNECTOR
"A"
④ REMOVE 1 SCREW
⑥ CONNECTOR
⑨ CONNECTOR

Fig. 10

2-1-10. Circuit Boards Location


Video Function BOARD
ZOOM S/W BOARD
Start/Stop BOARD
DECK BOARD
S/W BOARD
VIDEO MAIN BOARD
MIC PCB
Camera Function BOARD
EVF BOARD
LED BOARD
DC/DC CONVERTER BOARD
PROCESS BOARD
VIDEO Y/C BOARD
MATRIX BOARD
DRIVE BOARD
LI-BATTERY BOARD
DIGITAL BOARD

2-2. PREPARATIONS FOR MECHANICAL BLOCK CHECK, ADJ. AND REPLACEMENT

* MECHANICAL PARTS LOCATION
(TOP VIEW)

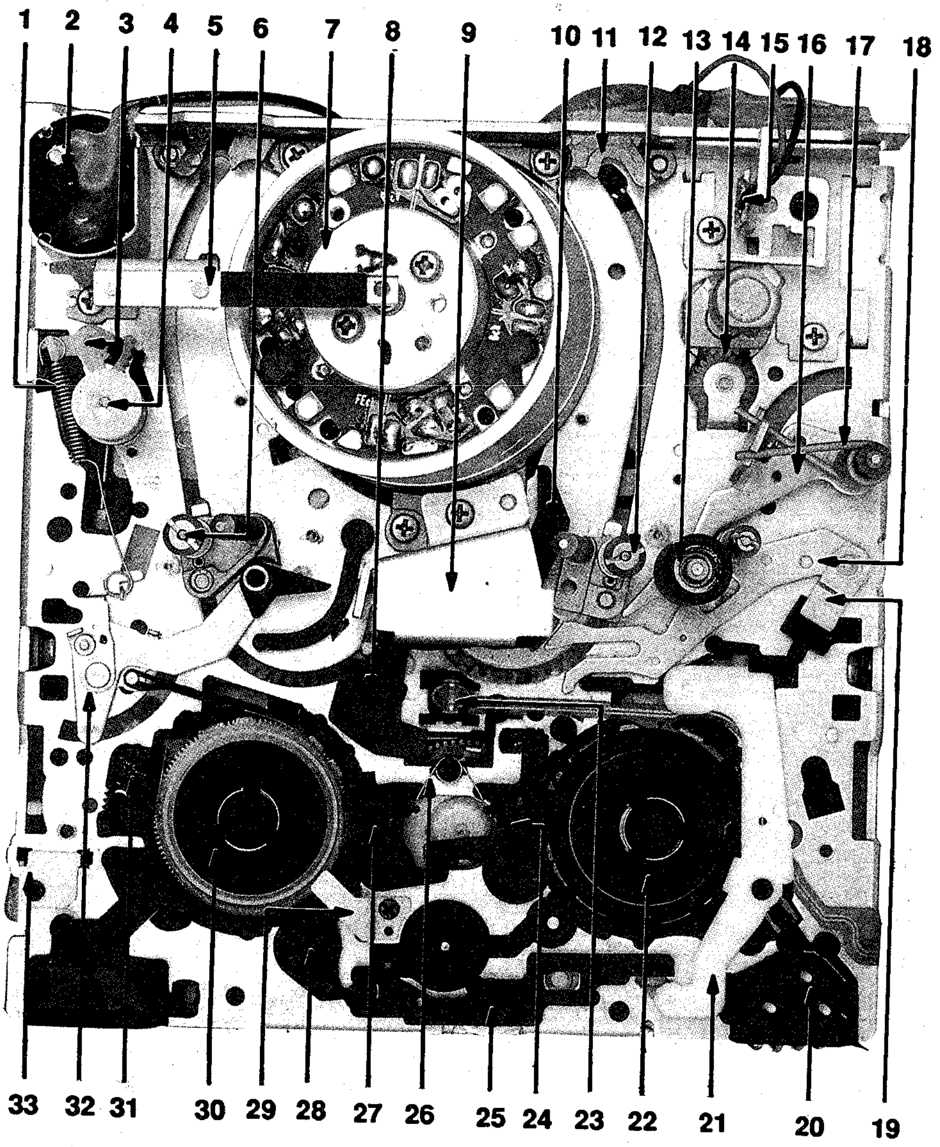
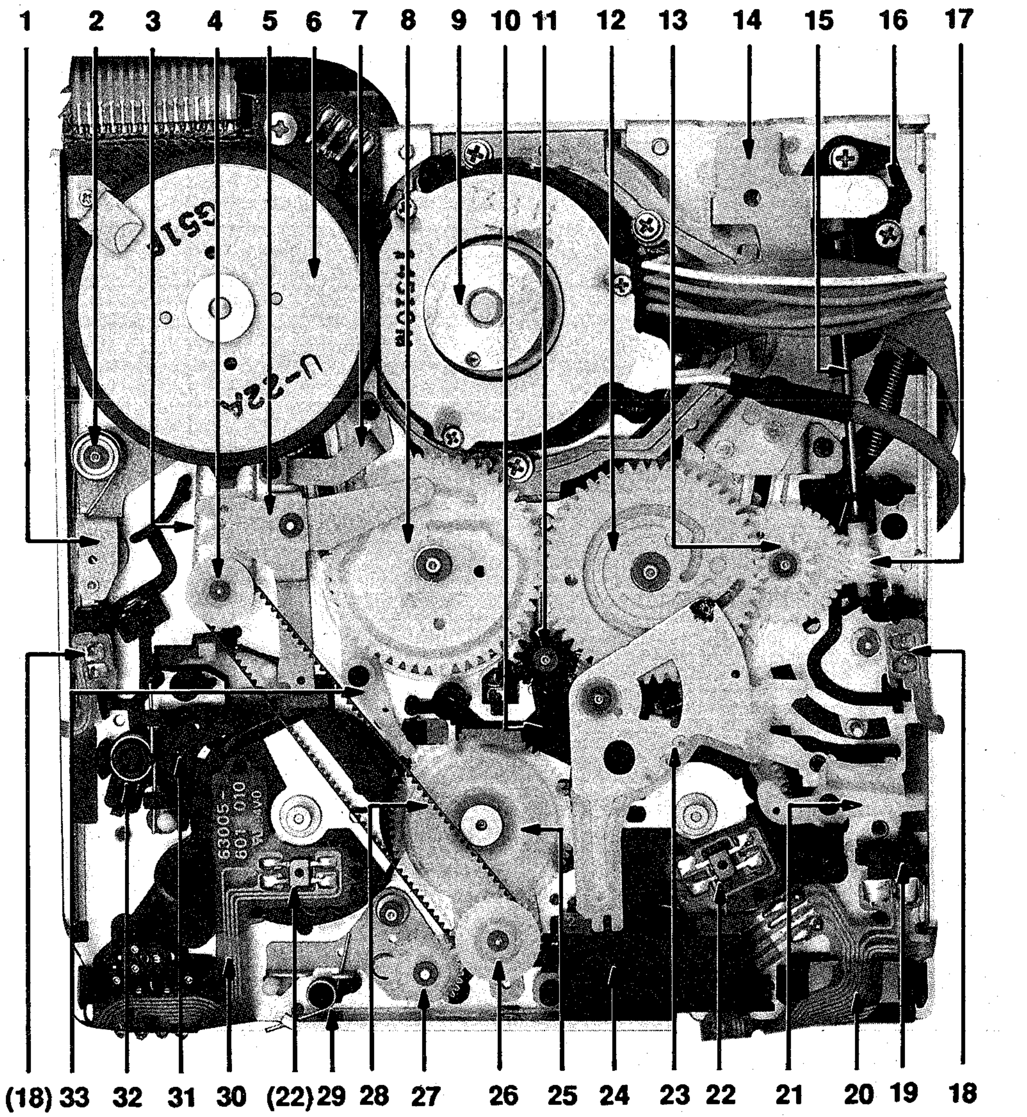


Fig. 11

1. SPRING-TENSION
2. LOADING MOTOR ASS'Y
3. ADJUST-TENSION SPRING
4. ROLLER IMPADENCE
5. EARTH BRUSH ASS'Y
6. POLE BASE S ASS'Y
7. DRUM ASS'Y
8. STOPPER - IDLER
9. GUARD-GUIDE
10. ARM - STOPPER IDLER
11. DRUM BASE ASS'Y
12. POLE BASE T ASS'Y
13. PINCH ROLLER ASS'Y
14. CAPSTAN GEAR ASS'Y
15. DEW SENSOR ASS'Y
16. PINCH ARM ASS'Y
17. SPRING-PINCH ARM
18. TAPE GUIDE ASS'Y
19. PLATE - T.G
20. DETECTOR-RECOGNITION
21. LEVER - BRAKE
22. REEL DISK T ASS'Y
23. LED-IR
24. BRAKE - T
25. LEVER-L.B
26. SPRING-BRAKE
27. BRAKE-S
28. BRAKE-LOADING
29. PLATE-TENSION BAND
30. REEL DISK S ASS'Y
31. HOLDER BAND ASS'Y
32. ARM TENSION ASS'Y
33. PLATE - CASS S/W

(BOTTOM VIEW)


1
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(18)
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(22)
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Fig. 12

1. PINCH LEVER ASS'Y
2. SPRING - PINCH LEVER
3. BELT - TIMING CAP
4. RELAY PULLEY ASS'Y
5. LOADING LEVER ASS'Y
6. MOTOR - CAPSTAN
7. SUPPORT - T
8. CAM T ASS'Y
9. DRUM ASS'Y
10. BRAKE - U.L
11. GEAR-U.L B
12. CAM S ASS'Y
13. GEAR-DRIVE CAM
14. SUPPORT S ASS'Y
15. SHAFT - LOADING
16. WORM - LOADING MOTOR
17. WORM - LOADING
18. SENSOR - START/END
19. SWITCH - CASSETTE
20. FPC S ASS'Y
21. LEVER EJECT
22. SENSOR REEL
23. MODE LEVER ASS'Y
24. MODE SWITCH ASS'Y
25. IDLER ASS'Y
26. GEAR DRIVE IDLER ASS'Y
27. LB GEAR ASS'Y
28. BELT - TIMING IDLER
29. SPRING - LB
30. FPC T ASS'Y
31. SOFT BRAKE ASS'Y
32. SPRING - SOFT BRAKE
33. LEVER - CAM BRAKE

(HOUSING ASS'Y)

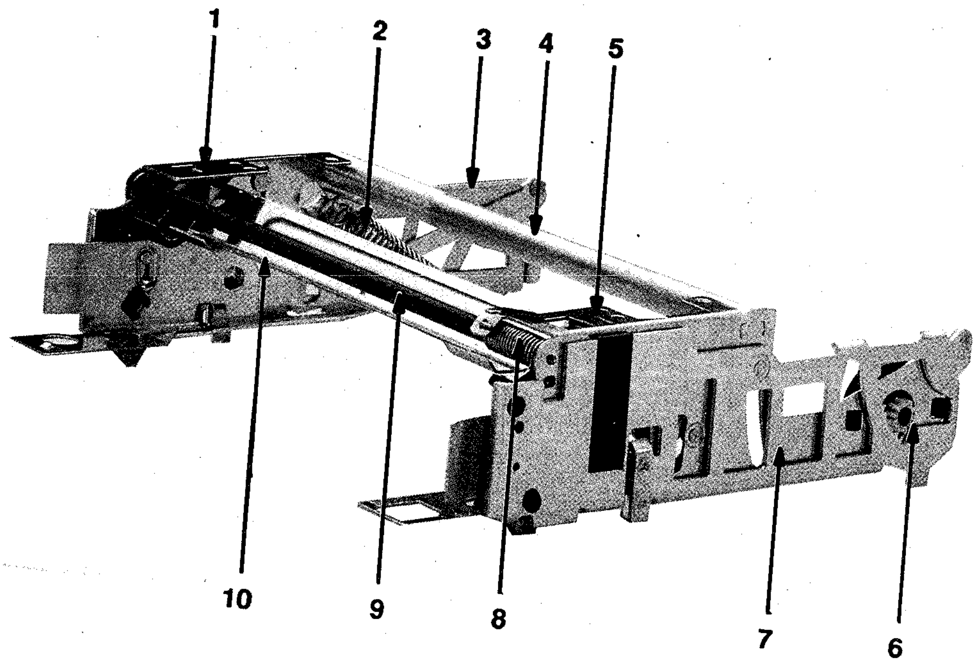


Fig. 13

1. **LEVER -HOUSING L**
2. **SPRING-HOUSING BRKT**
3. **BRACKET-HOUSING L**
4. **SHAFT-HOUSING**
5. **LEVER-HOUSING R**
6. **DAMPER-HOUSING**
7. **BRACKET-HOUSING R**
8. **SPRING-LOCK LEVER HOUSING**
9. **HOLDER-LOCK LEVER**
10. **PLATE-HOUSING**

Note : For removal of the cabinet, the boards, the cassette compartment, etc., refer to the service guides.

2-2-1. OPERATION WITHOUT CASSETTE COMPARTMENT ASSEMBLY AND TAPE

Note : 1. Remove two (2) screws ⑥ and pull a cassette compartment up to remove.
2. The unit will not work if exposed to a strong light.

1. How to Trigger the Loading Operation (See Fig. 14)

1) Supply power to the unit after removing the cabinet, the camera block, the cassette compartment assembly, etc., as indicated in the service guides. (This will enable operation of the mechanical deck.)
2) Cover the LED assembly with an opaque cap, etc. ①.
3) Attach a piece of tape to the detector recognition ② so that the pin is held down.
4) Push the Lever Eject ③ in the direction of the arrow "A" , when you press play switch.

2. Setting the Playback Mode (See Fig. 14)

1) Follow the procedures for how to trigger the loading operation above.
2) Put the rubber band ④ around the S and T reels.
3) Press the PLAY switch of unit, then push and hold the Arm Tension Ass'y ⑤ in the direction of the arrow B when the T reel starts to rotate (the band tension will be released, and the S Reel will start rotating).
4) To stop operation, press the STOP switch.

3. Eject Operation (See Fig. 14)

1) To eject, turn the EJECT switch on.

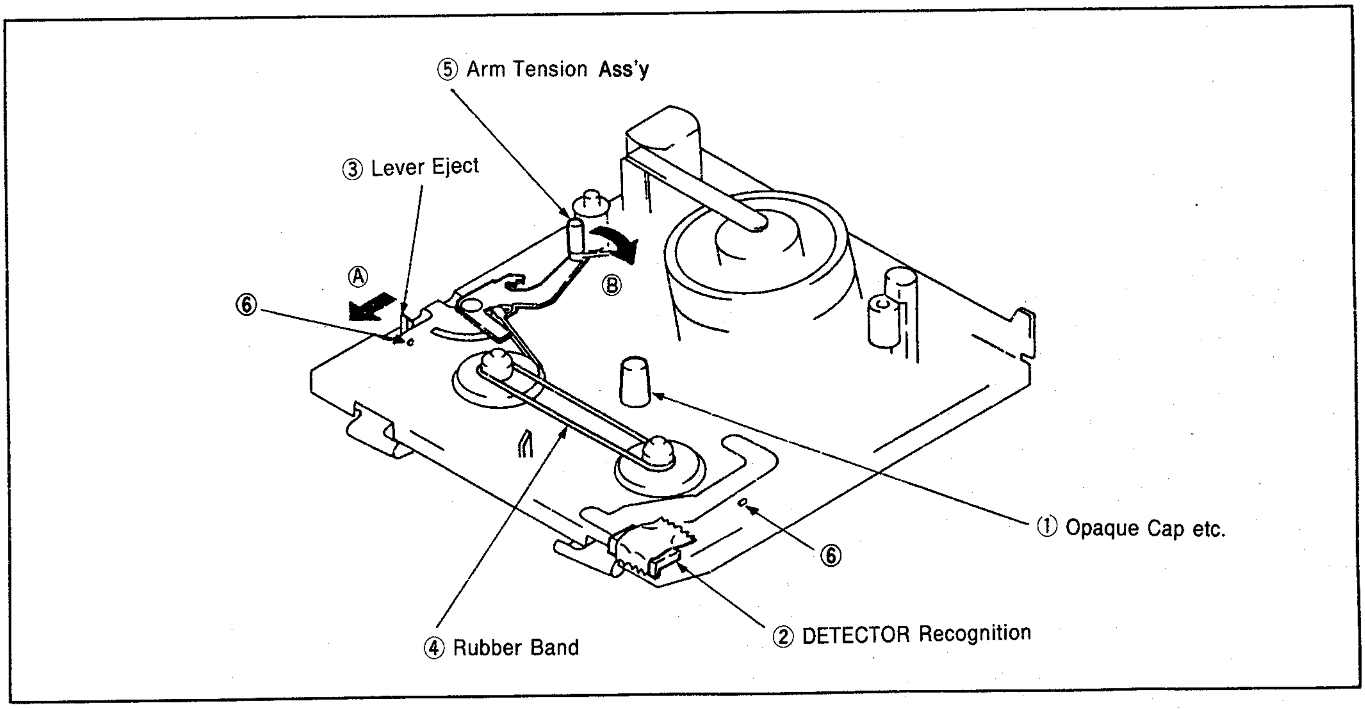


Fig. 14

2-3. MECHANICAL BLOCK CHECK, ADJUSTMENT AND REPLACEMENT

2-3-1. GUARD GUIDE

1. Removal (See Fig. 15)

Remove the screw ①, then remove the Guard Guide ②.

2. Installation (See Fig. 15)

1) Align the dowel ③ attached to the Guard Guide ② with the holes ④.
2) Secure the Guard Guide ② with the screw ①.

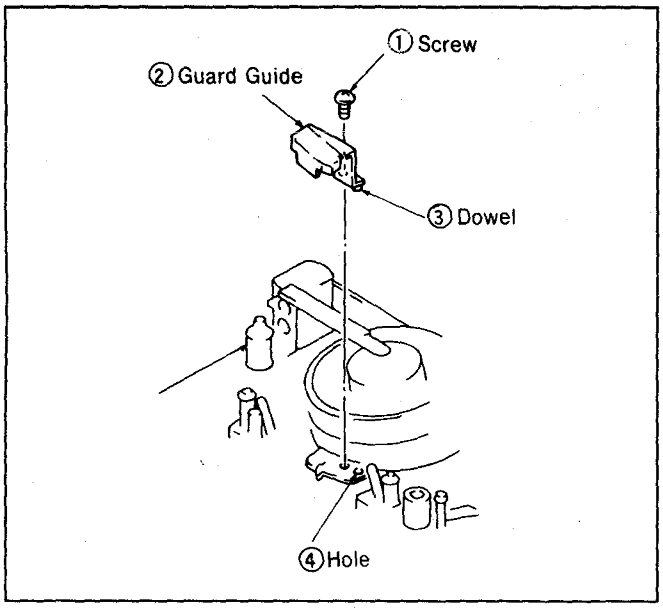

① Screw
② Guard Guide
③ Dowel
④ Hole

Fig. 15

2-3-2. CAPSTAN MOTOR ASS'Y

1. Removal (See Fig. 16)

1) Set the ULD mode.
2) Remove the two screws ②, then remove the Capstan Motor Ass'y ③.

2. Installation (See Fig. 16)

1) Align the two dowels ④ with the two holes ⑤, then engage the toothed part ⑥ with the Capstan Gear Ass'y ⑦.
2) Secure the Capstan Motor Ass'y ③ with the two screws ②.

Note :

- When engaging the gears, be carefel not to damage their teeth.
- Do not leave any clearance between the Capstan Motor and the chassis.
- Do not touch the Capstan Motor axle *, the oil seal* and the rotor *.

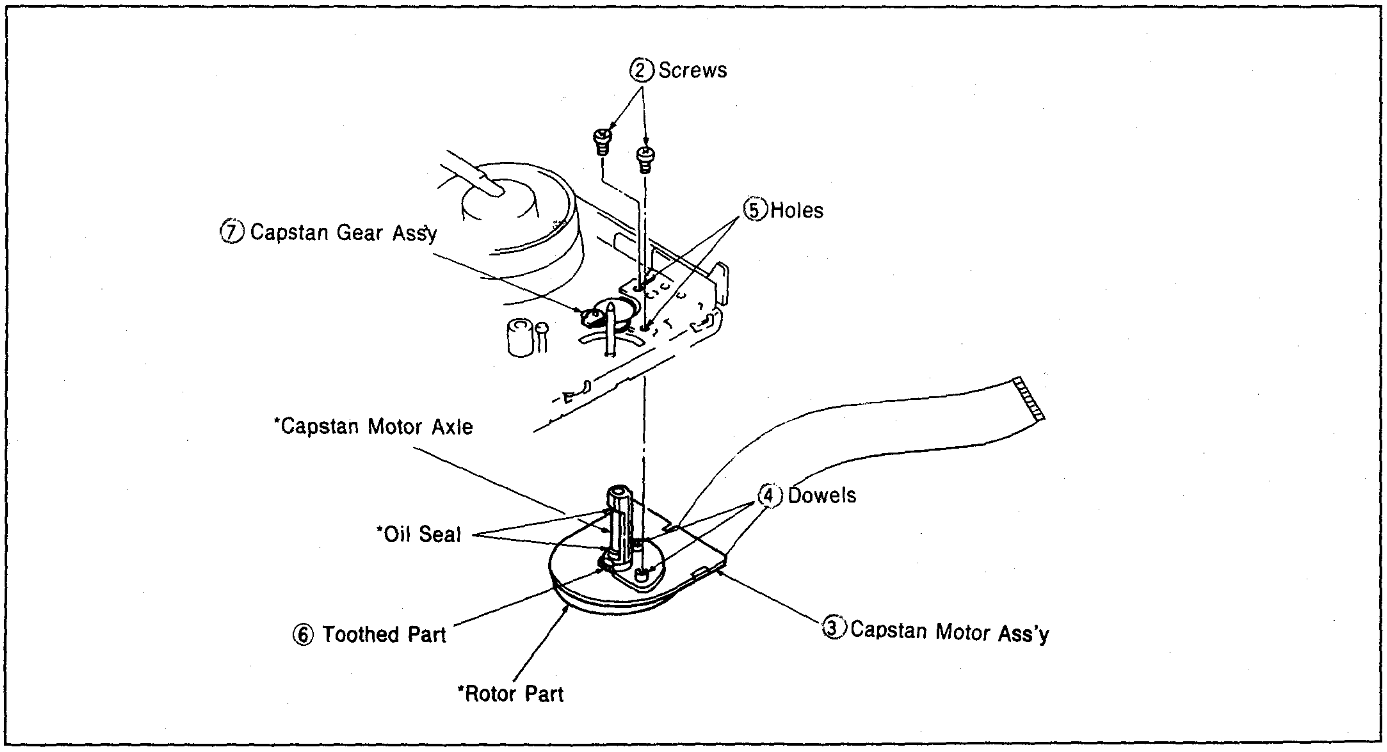

② Screws
⑦ Capstan Gear Ass'y
⑤ Holes
*Capstan Motor Axle
④ Dowels
*Oil Seal
⑥ Toothed Part
③ Capstan Motor Ass'y
*Rotor Part

Fig. 16

2-3-3. BRAKE S, BRAKE T

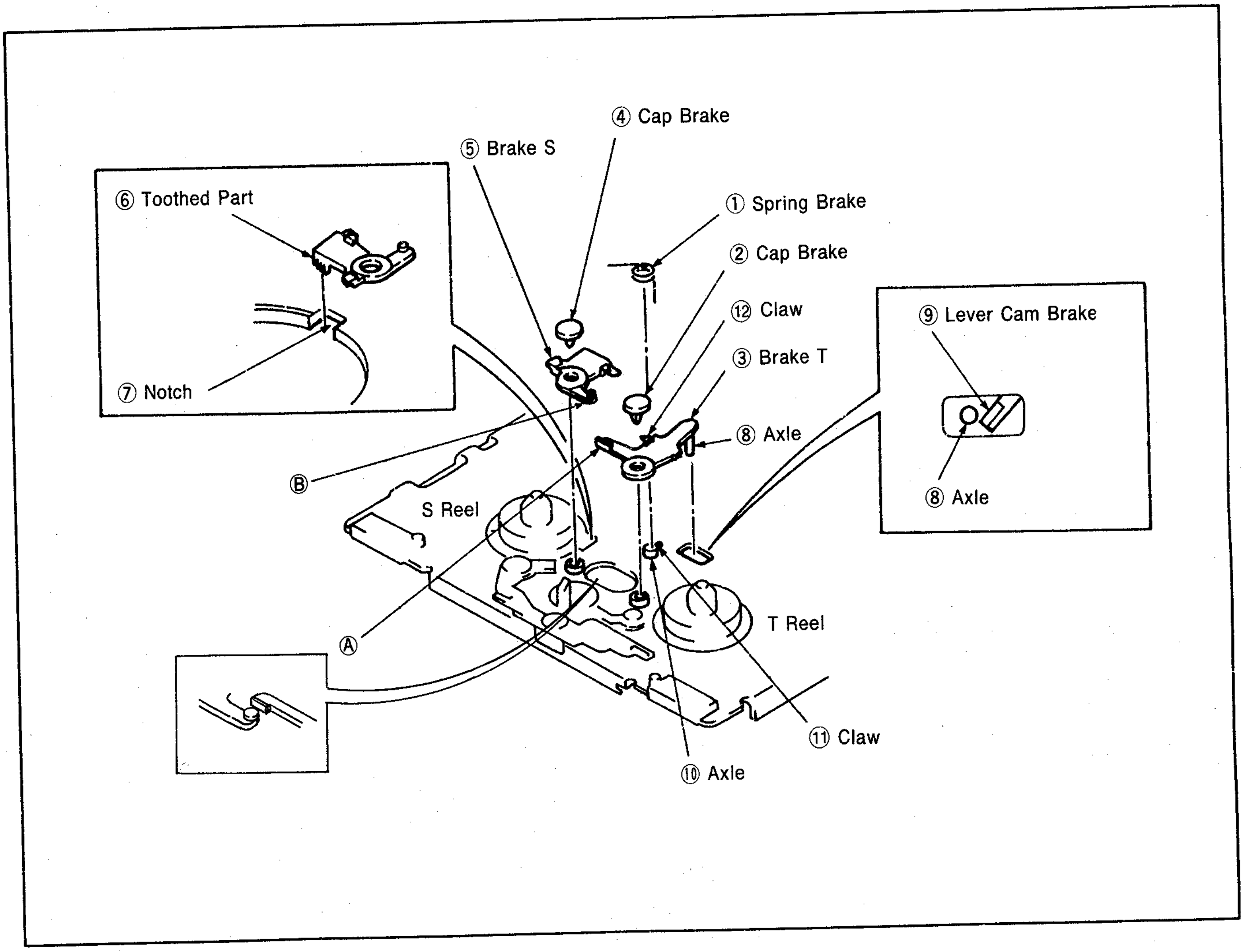
1. Removal (See Fig. 17)

1) Remove the Spring Brake ①.
2) Remove the Cap Brake ②, then remove the Brake T ③.
3) Remove the Cap Brake ④, then remove the Brake S ⑤.

2. Installation (See Fig. 17)

1) While fitting the toothed part ⑥ into the notch ⑦, mount the Brake S ⑤.
2) Insert the Cap Brake ④.
3) Insert the axle ⑧ into the Lever Cam Brake ⑨. Then Ⓐ part will be closer to the Drum than Ⓑ part, and mount the Brake T ③.
4) Insert the Cap Brake ②.
5) Insert the Spring Brake ① below the claw ⑪ of the axle ⑩, then hook it to two claws ⑫.

Note : Confirm that the claws of Cap Brake ② and ④ are not broken before assembling.



④ Cap Brake
⑤ Brake S
⑥ Toothed Part
⑦ Notch
① Spring Brake
② Cap Brake
⑫ Claw
③ Brake T
⑨ Lever Cam Brake
⑧ Axle
⑧ Axle
Ⓑ
S Reel
Ⓐ
T Reel
⑪ Claw
⑩ Axle

Fig. 17

2-3-4. BRAKE LOADING, LEVER LB

1. Removal (See Fig. 18)

1) Remove the screw ①, then remove the Plate Tension Band ②.
2) Remove the Cap Brake ③, then remove the Brake Loading ④.
3) Remove the Cap Brake ⑤, then remove the Lever LB ⑥.

2. Installation (See Fig. 18)

1) Mount the Lever LB ⑥ matching it to pin ⑦ of the LB Gear, then secure it with the Cap Brake ⑤.
2) Insert pin ⑧ into the notch ⑨ of the Lever LB ⑥, then mount the Brake Loading ④ while inserting the toothed part ⑩ into the notch ⑪.
3) Insert the Cap Brake ③.
4) Align the hole ⑫ with the dowel ⑬, then mount the Plate Tension Band ② and secure it with the screw ①.

Note : Confirm that claws of Cap Brake ③ and ⑤ are not broken before assembling.

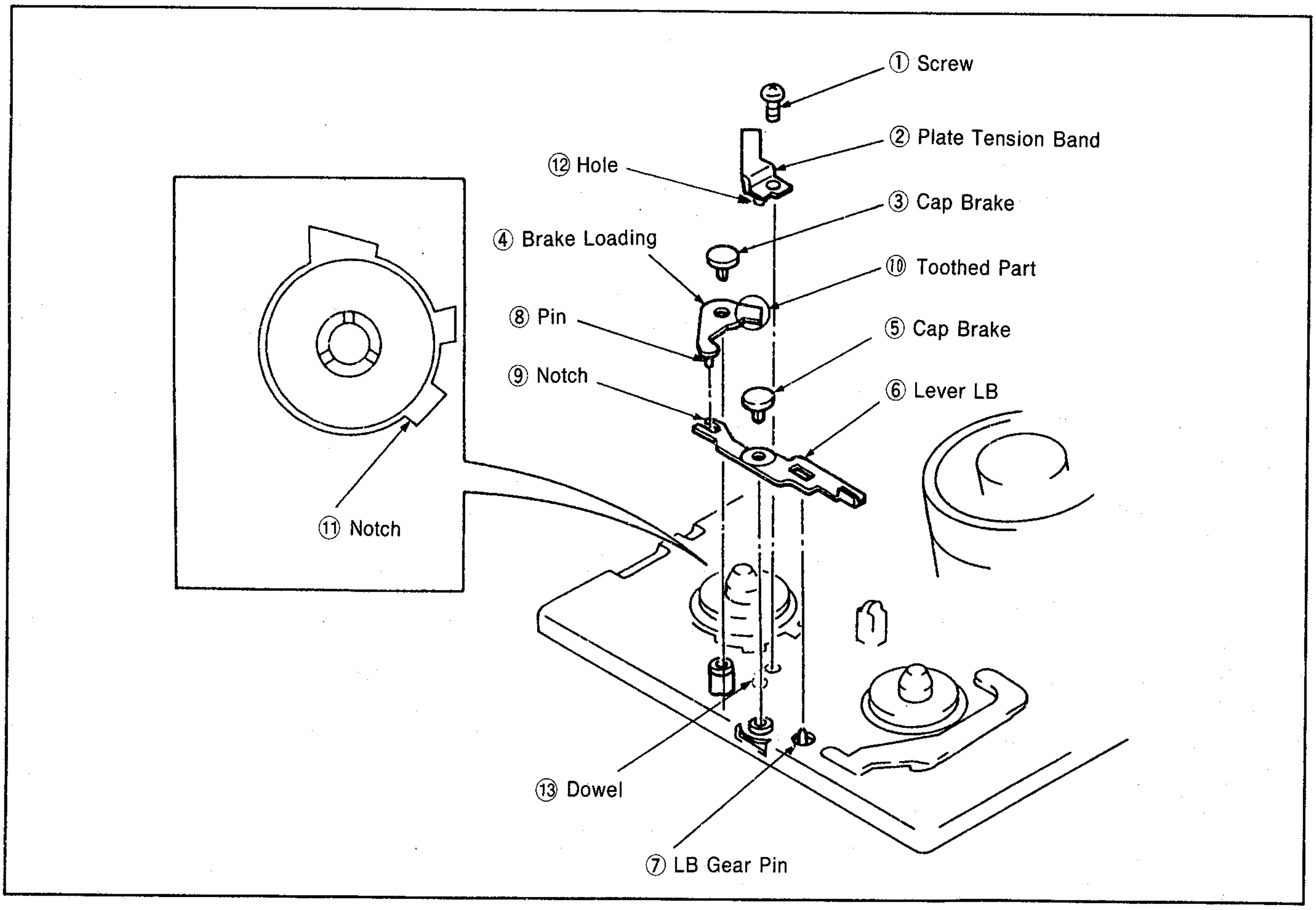

① Screw
② Plate Tension Band
⑫ Hole
③ Cap Brake
④ Brake Loading
⑩ Toothed Part
⑧ Pin
⑤ Cap Brake
⑨ Notch
⑥ Lever LB
⑪ Notch
⑬ Dowel
⑦ LB Gear Pin

Fig. 18

2-3-5. LEVER BRAKE

1. Removal (See Fig. 19)

1) While pushing the claw ① in the direction of the arrow, remove the Lever Brake ②.

2. Installation (See Fig. 19)

1) Fit the Lever Brake② to the axle ③, insert protrusions ⓐ, ⓑ, ⓒ, ⓓ into the four holes ④, then secure with the claw ①.

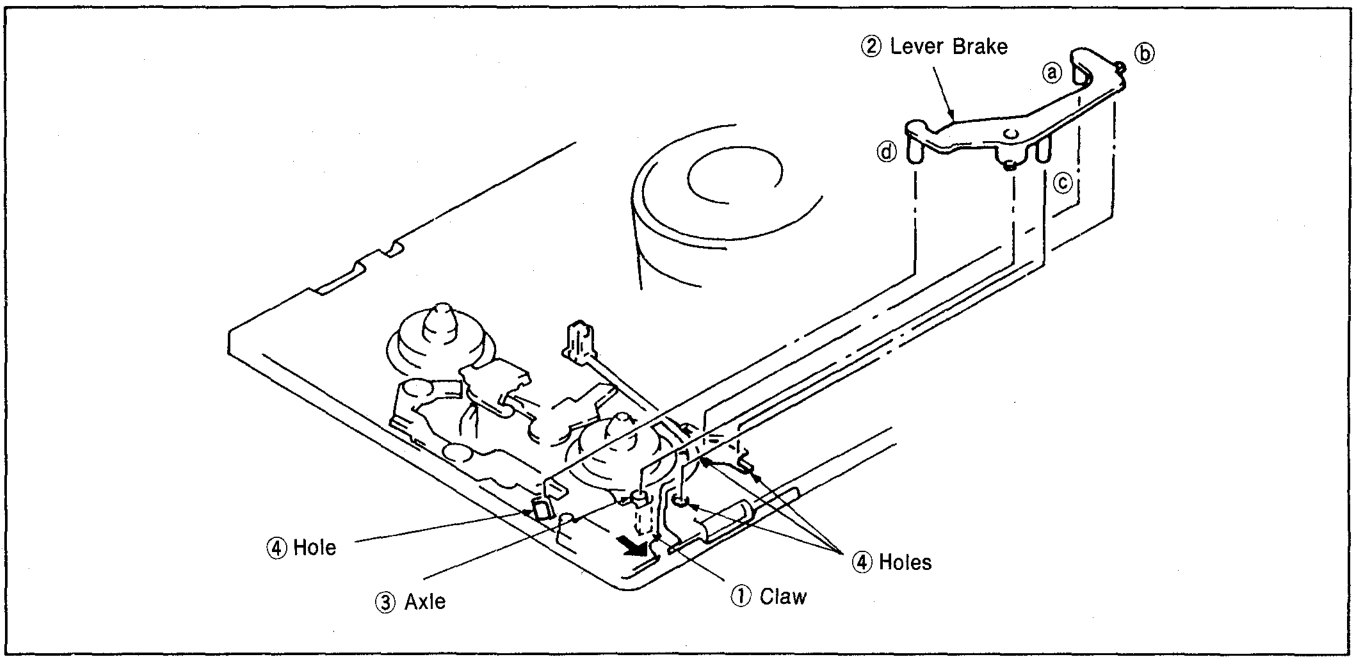

② Lever Brake
ⓐ
ⓑ
ⓓ
ⓒ
④ Hole
③ Axle
① Claw
④ Holes

Fig. 19

2-3-6. STOPPER IDLER, ARM STOPPER IDLER

1. Removal (See Fig. 20)

1) Remove the Spring Stopper Idler ①.
2) Open the chassis claw ②, then remove the Arm Stopper Idler ③.
3) Remove the Stopper Idler ④.

2. Installation (See Fig. 20)

1) Mount the Stopper Idler ④ onto the axle ⑤.
2) Mount the Arm Stopper Idler③ onto axle ⑥, insert pin ⑩ into hole ⑪, then hook the claw ② of the cassis to the hole ⑦.
3) Insert the Spring Stopper Idler ① into the axle ⑤, then hook it to claws ⑧ and ⑨.

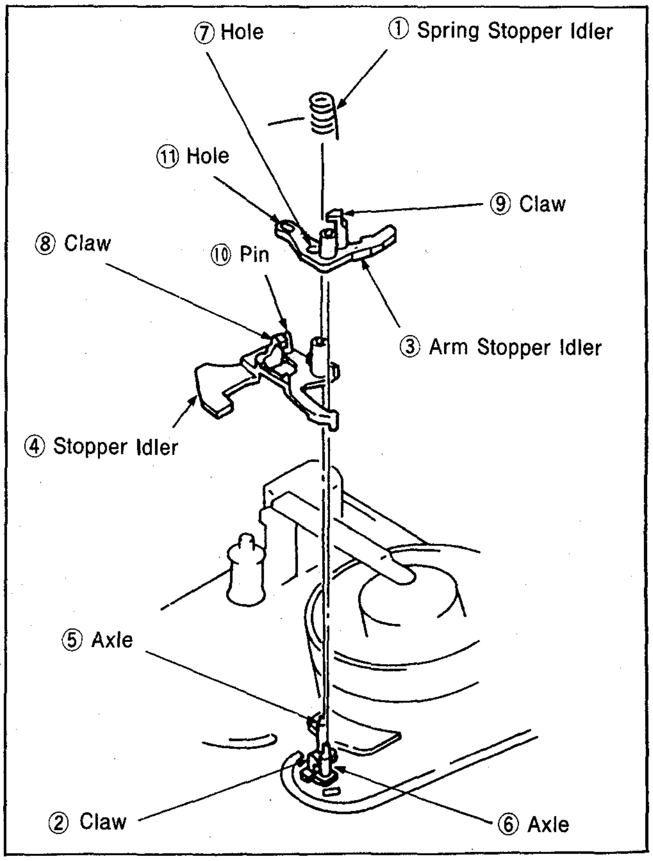

⑦ Hole
① Spring Stopper Idler
⑪ Hole
⑨ Claw
⑧ Claw
⑩ Pin
③ Arm Stopper Idler
④ Stopper Idler
⑤ Axle
② Claw
⑥ Axle

Fig. 20

2-3-7. PINCH ASS'Y, TAPE GUIDE ASS'Y

1. Removal (See Fig. 21)

1) Set the IB mode.
2) Remove the Washer Slit ①, then remove the Pinch Ass'y ②.
3) Bend the claw ④ inside hole ③ in the direction of the arrow then remove the Plate T.G ⑤.
4) Remove the Tape Guide Ass'y ⑥.

Note : Mode change
EJECT→(IA)→ULD→(IB)→STOP→(IC)→PLAY

2. Installation (See Fig. 21)

1) Grease the inner surfaces of hole ⑦.
2) Insert the axle ⑧ of the Tape Guide ass'y ⑥ into the hole ⑦.
3) Grease the shaded section ⓐ (See Fig. A).
4) Insert the Plate T.G ⑤ into the hole ③, then secure it with the claw ④.
5) Apply oil to the axle ⑨ (See Fig.B).
6) Fit the Pinch Ass'y ② to the axle ⑨ and insert the bending part of Pinch Lever Ass'y ⑩ into the ⓑ part.
7) Install the Washer Slit ①.

Note :

- When fitting the Pinch Ass'y ② to the axle ⑨, make sure that it does not touch the Tape Guide ⑪ or the Pinch Roller Ass'y ⑫.
- After assembling, be sure to perform tape path adjustment as described in section 3.

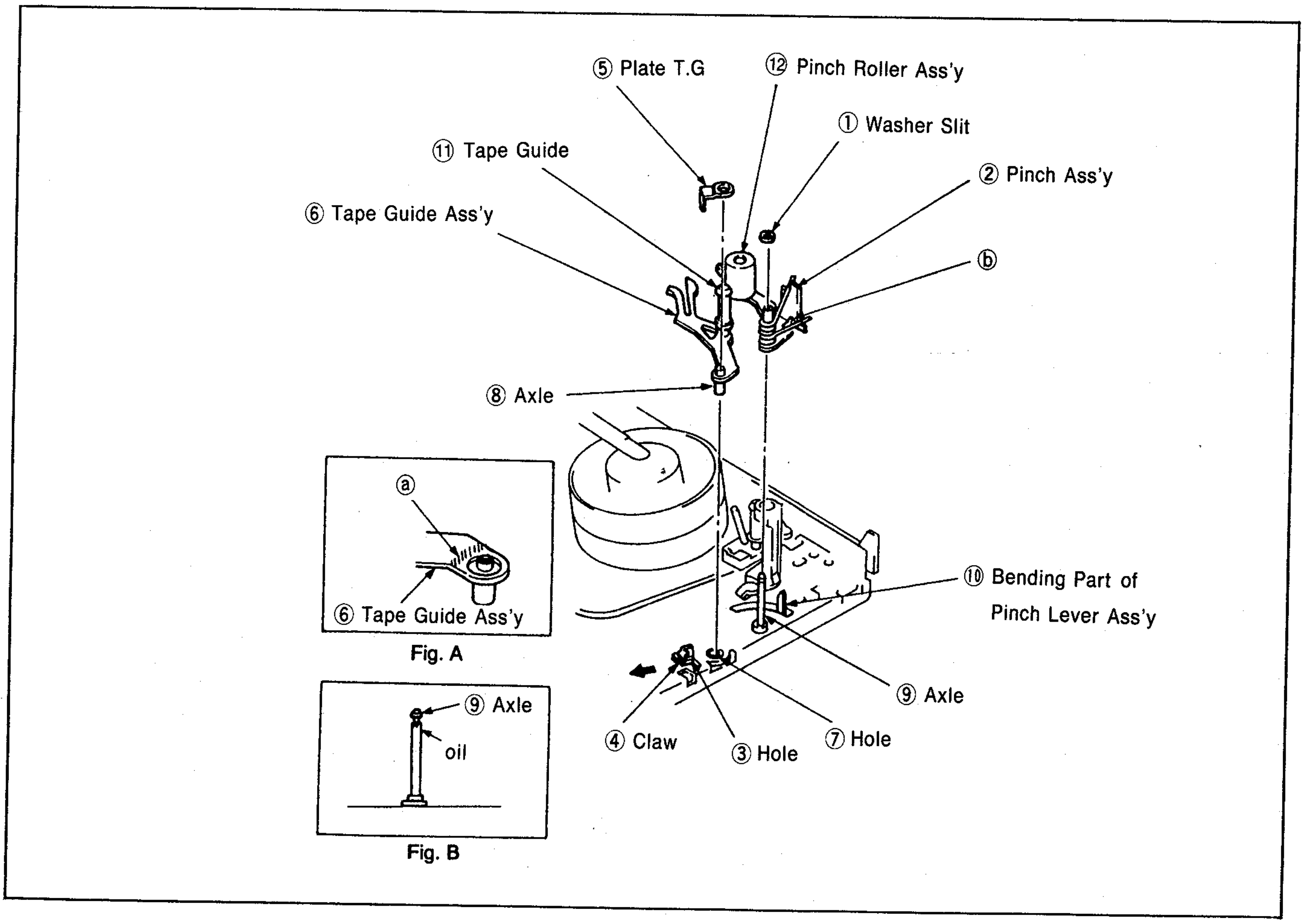

⑤ Plate T.G
⑫ Pinch Roller Ass'y
① Washer Slit
⑪ Tape Guide
② Pinch Ass'y
⑥ Tape Guide Ass'y
ⓑ
⑧ Axle
ⓐ
⑥ Tape Guide Ass'y
⑩ Bending Part of Pinch Lever Ass'y
⑨ Axle
oil
⑨ Axle
④ Claw
③ Hole
⑦ Hole

Fig. A

Fig. B

Fig. 21

2-3-8. ROLLER IMPEDANCE

1. Removal (See Fig. 22)

1) Remove the Cap Impedance ①.
2) Remove the Roller Impedance ②, the Sleeve Impedance ③, the Flange Impedance ④ and the Spring Impedance ⑤.

2. Installation (See Fig. 22)

1) Mount the Spring Impedance ⑤, the Flange Impedance ④, Sleeve Impedance ③ and the Roller Impedance ② to the axle.
2) Secure the Cap Impedance ① to the axle by rotating it 4 to 6 turns.

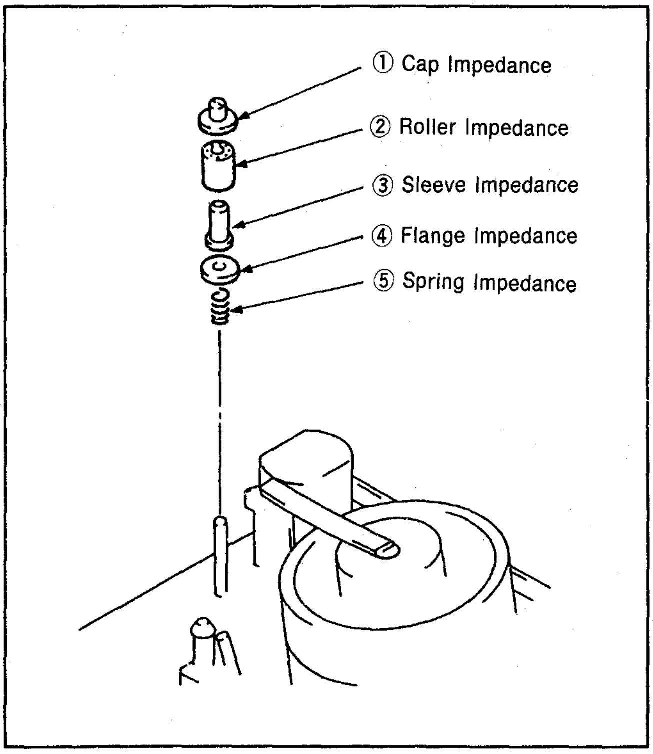

① Cap Impedance
② Roller Impedance
③ Sleeve Impedance
④ Flange Impedance
⑤ Spring Impedance

Fig. 22

3. Cap Impedance Height Preset (See Fig. 23)

1) Adjust height from the mechanism chassis upper surface ② to the Cap Impedance ① upper surface to 18.6 mm by turning the Cap Impedance ①.

Note : After adjustment, be sure to perform tape path adjustment as described in section 3.

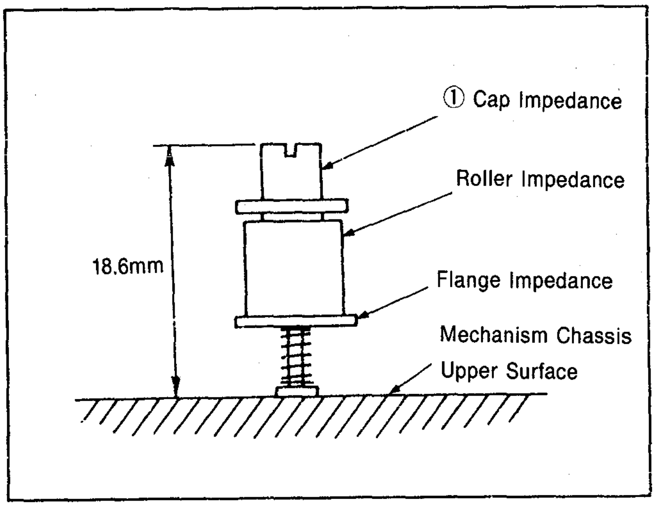

① Cap Impedance
Roller Impedance
18.6mm
Flange Impedance
Mechanism Chassis
Upper Surface

Fig. 23

2-3-9. REEL DISK S ASS'Y, REEL DISK T ASS'Y

1. Removal (See Fig. 24)

1) Remove the Brake S and Brake T as described in section 2-3-3.
2) Remove the Plate Tension Band as described in section 2-3-4.
3) Remove the Holder Band Ass'y as described in section 2-3-10.
4) Remove the Reel Disk S Ass'y ①.
5) Turn the stopper ② approx. 90° in the direction of the arrow Ⓐ.
6) Remove the Lever Brake ③ as described in section 2-3-5.
7) Remove the Reel Disk T Ass'y ④.

2. Installation (See Fig. 24)

1) Apply oil to the axle ⑤ (See Fig. A).
2) Move the Idler Ass'y ⑥ in the direction of the arrow Ⓑ and the Soft Brake Ass'y ⑦ in the direction of the arrow Ⓒ, putting them out of the way.
3) Mount the Reel Disk T Ass'y ④ onto the axle ⑤, then turn the stopper ② in the direction of the arrow Ⓓ as far as it will go.
4) Fit the Lever Brake ③ as described in section 2-3-5.
5) Apply oil to the axle ⑧ (See Fig. B).
6) Move the Idler Ass'y ⑥ in the direction of the arrow Ⓔ, the Brake UL ⑨ in the direction of the arrow Ⓕ and the Brake Loading ⑩ in the direction of the arrow Ⓖ, putting them out of the way.
7) Mount the Reel Disk S Ass'y ① onto the axle ⑧.
8) Mount the Holder Band Ass'y as described in section 2-3-10.
9) Mount the Plate Tension Band as described in section 2-3-4.
10) Mount the Brake S and Brake T Assemblies as described in section 2-3-3.

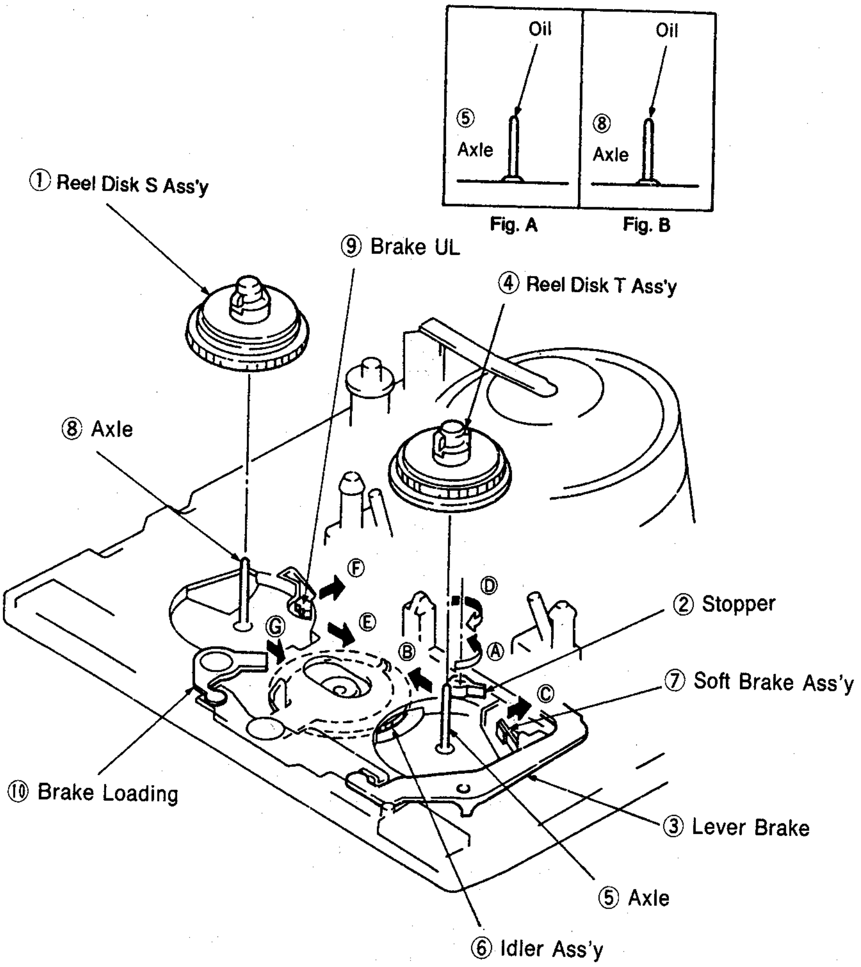

Oil
⑤ Axle
Oil
⑧ Axle
① Reel Disk S Ass'y
⑨ Brake UL
④ Reel Disk T Ass'y
⑧ Axle
Ⓕ
Ⓓ
Ⓖ
Ⓔ
Ⓑ
Ⓐ
② Stopper
Ⓒ
⑦ Soft Brake Ass'y
⑩ Brake Loading
③ Lever Brake
⑤ Axle
⑥ Idler Ass'y

Fig. A

Fig. B

Fig. 24

2-3-10. ARM TENSION ASS'Y, HOLDER BAND ASS'Y

1. Removal (See Fig. 25)

1) Remove the Plate Tension Band as described in section 2-3-4.
2) Remove the screw ①.
3) Remove the Holder Band Ass'y ④ from the axle③ of Arm Tension Ass'y ②.
4) Remove the Spring Tension ⑤.
5) Remove the Washer Slit ⑥ from the back of the mechanism chassis, then remove the Arm Tension Ass'y ②.
6) Open the claw ⑦, then remove the Adjust Tension Spring ⑧.

> Note : When removing the Holder Band Ass'y ④, take care not to twist or bend it, and not to touch the felt surface ⑨.

2. Installation (See Fig. 25)

1) Install the Adjust Tension Spring ⑧ in the position shown in Fig. A. then close the claw ⑦.
2) Apply oil to the hole ⑩ .
3) Mount the Arm Tension Ass'y ②, then insert it into the slot ⑪ so that the ⓐ part goes to the arrow Ⓐ side of the Mode Lever Ass'y (See Fig. B).
4) While holding the Arm Tension Ass'y ② from the mechanism chassis front, secure it with the Washer Slit ⑥ from the back.
5) Hook the R hook of the Spring Tension ⑤ to the Adjust Tension Spring ⑧ as shown in the figure, then hook the opposite end to the Arm Tension Ass'y ②.
6) Mount the Holder Band Ass'y ④ onto the axle③ of Arm Tension Ass'y ②, and place it so that the felt surface ⑨ comes against the shaded portion of the Reel S ass'y ⑫.
7) Mount the Holder Band B ⑬ of the Holder Band Ass'y ④ so that it is aligned with dowel ⑭ of the mechanism chassis, then secure it temporarily with the screw ①.
8) Mount the Plate Tension Band as described in section 2-3-4.
9) Adjust tension band PLAY position as described in section 2-3-11.
10) Perform Adjust Tension Spring ⑧ adjustment as described in section 3-2.

> Note : When mounting the Holder Band Ass'y ②, do not twist or bend it, and not to touch the felt surface ⑨.

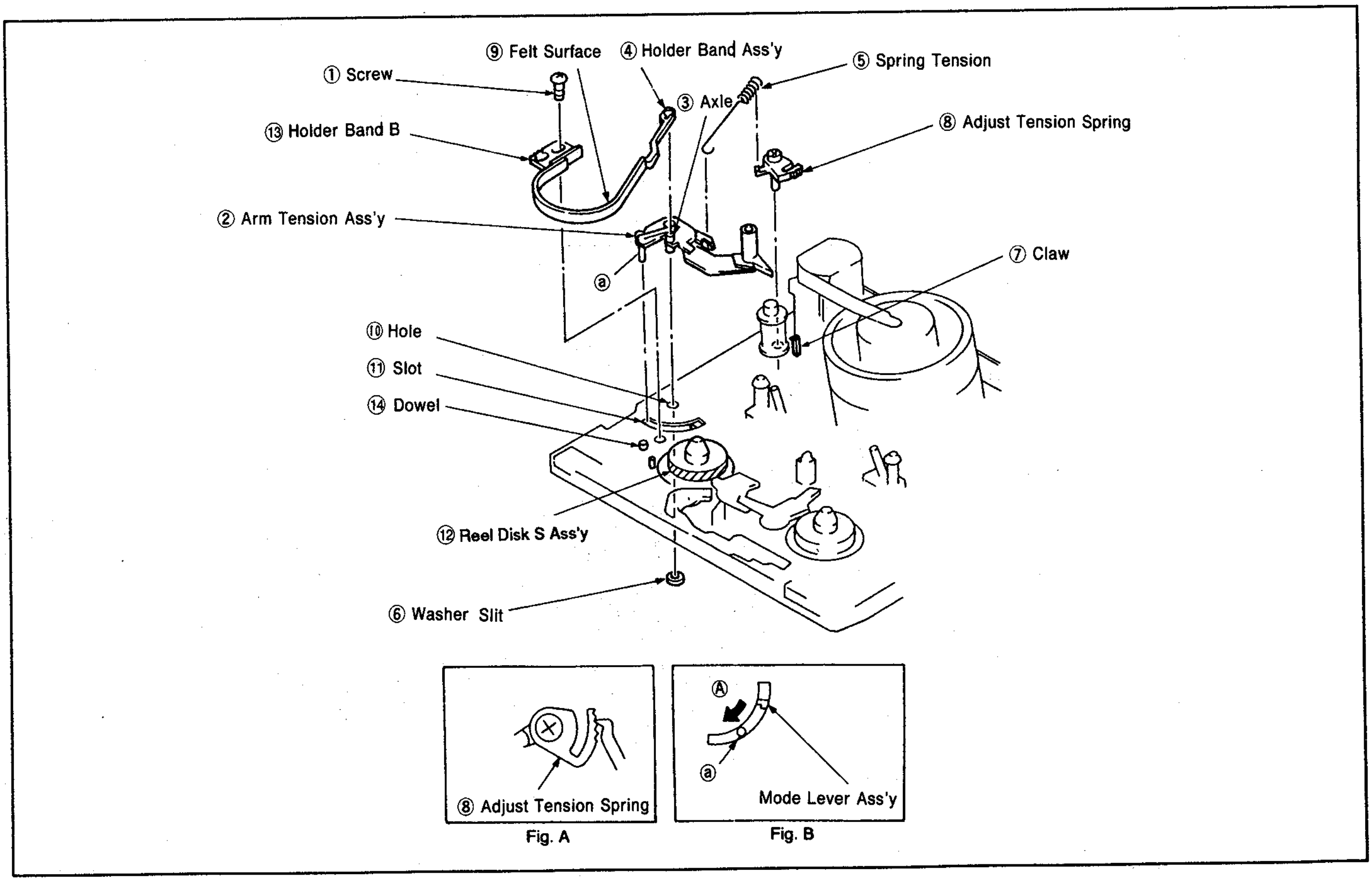

⑨ Felt Surface
④ Holder Band Ass'y
① Screw
⑤ Spring Tension
③ Axle
⑬ Holder Band B
⑧ Adjust Tension Spring
② Arm Tension Ass'y
⑦ Claw
ⓐ
⑩ Hole
⑪ Slot
⑭ Dowel
⑫ Reel Disk S Ass'y
⑥ Washer Slit
⑧ Adjust Tension Spring
Ⓐ
ⓐ
Mode Lever Ass'y

Fig. A

Fig. B

Fig. 25

2-3-11. TENSION BAND PLAY POSITION PRESET (See Fig. 26)

1) Load a cassette tape and set the PLAY mode.
2) Confirm whether the distance between ⓐ part of the Arm Tension Ass'y ① and the groove ② of the chassis is 1.2 ± 0.2mm. If this distance is not within the specified range, remove the cassette tape and perform the following adjustment.
3) Loosen the fixing screw ④ of the Holder Band Ass'y ③.
4) Slide the Holder Band B ⑤ in the direction of the arrow Ⓐ if the measured distance is over the specified range, and in the direction of the arrow Ⓑ if it is under that range. Then, secure it with the screw ④.
5) Repeat steps 1) and 2) and confirm that the distance is within the specified range.

Note : Use a cassette with the tape advanced halfway.

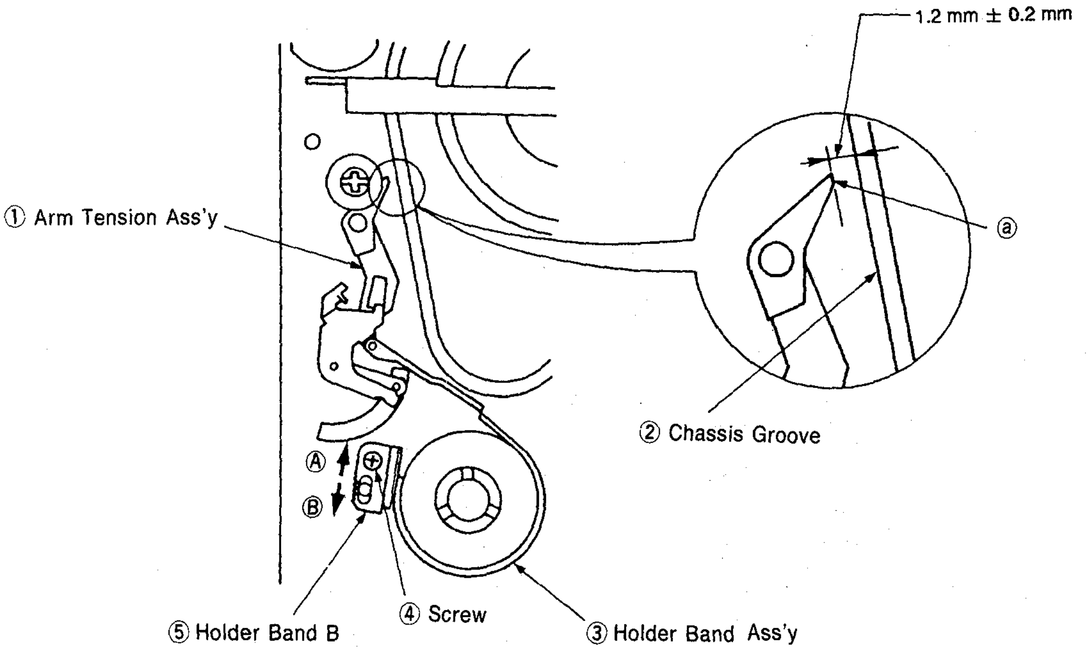

1.2 mm ± 0.2 mm
① Arm Tension Ass'y
ⓐ
② Chassis Groove
Ⓐ
Ⓑ
④ Screw
⑤ Holder Band B
③ Holder Band Ass'y

Fig. 26

2-3-12. DRUM ASS'Y, DEW SENSOR ASS'Y

1. Removal (See Fig. 27)

1) Set the EJECT mode.
2) Remove the Guard Guide as described in section 2-3-1.
3) Remove the screw ③, then remove the Earth Brush Ass'y ④.
4) Remove the three screws ⑤, then remove the Drum Ass'y ⑥ from the mechanism chassis.
5) Remove the screw ⑦, then remove the Dew Sensor Ass'y ⑧.

2. Installation (See Fig. 27)

Note :
- When removing the Drum Ass'y ⑥ from the mechanism chassis, take care not to cut the flexible board ① or Connectors ②.
- Do not touch the head tip ⑨.

1) Insert part ⓐ of the Dew Sensor Ass'y ⑧ into the hole ⑩ of the mechanism chassis, then secure it with the screw ⑦.
2) Insert the connector ② and the flexible board ① into the hole ⑪ of the mechanism chassis, align the Drum Ass'y ⑥ with the two dowels ⑫ and secure it with the three screws ⑤.
3) Align the Earth Brush Ass'y ④ with the two dowels ⑭ of the mechanism chassis and secure it with the screw ③.
4) Mount the Guard Guide as described in section 2-3-1.

Note :
- Be careful not to cut the flexible board ① or the Connectors ②.
- Take care not to touch the head tip ⑨.
- After assembling, be sure to perform Tape Path Adjustment following instructions in section 3 .

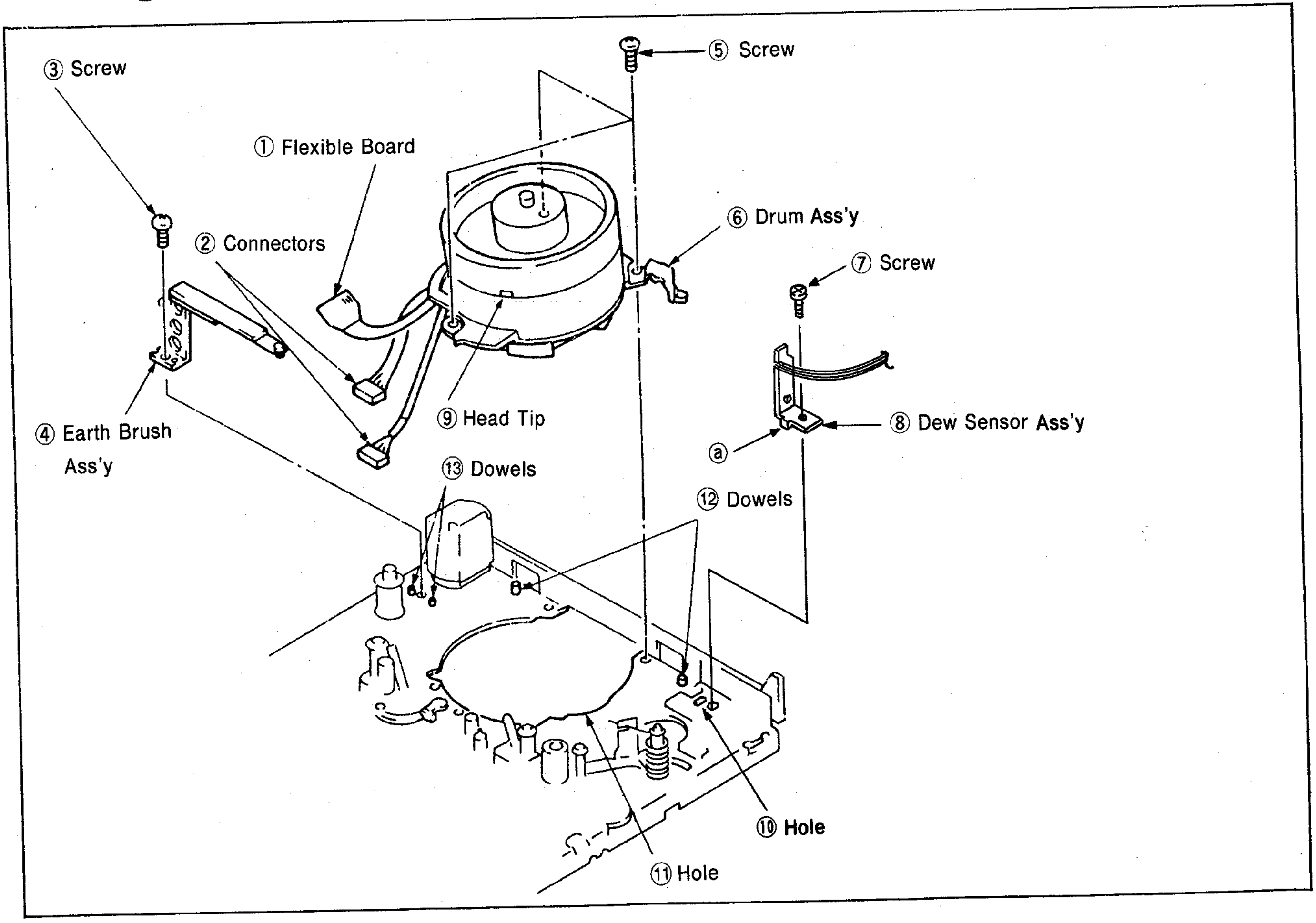

③ Screw
⑤ Screw
① Flexible Board
② Connectors
⑥ Drum Ass'y
⑦ Screw
④ Earth Brush Ass'y
⑨ Head Tip
⑬ Dowels
ⓐ
⑧ Dew Sensor Ass'y
⑫ Dowels
⑩ Hole
⑪ Hole

Fig. 27

2-3-13. LEVER EJECT, MODE LEVER ASS'Y, PINCH LEVER ASS'Y

1. Removal (See Fig. 28)

1) Remove the Capstan Motor as described in section 2-3-2.
2) Set the STOP mode.
3) Remove the claw ①, then remove the Lever Eject ②.
4) Remove the Washer Slit ③, then remove the Mode Lever Ass'y ④.
5) Remove the Spring Pinch Lever ⑤.
6) Remove the Washer Slit ⑥, then remove the Pinch Lever ass'y ⑦.

2. Installation (See Fig. 28)

Note : Mechanism must be in the unloaded position when installing these parts.

1) Grease the axle ⑧ (See Fig. A).
2) Assemble by inserting ⓐ part of the Pinch Lever Ass'y ⑦ into the slot ⑨, then insert the pin ⑩ into the Loading Lever Ass'y Notch ⑪.
3) Secure with the Washer Slit ⑥.
4) Mount the Spring Pinch Lever ⑤ by catching its ⓑ end between the chassis side and side its ⓒ end to the claw ⑫.
5) Apply oil to the axle ⑬ (See Fig. B).
6) Align the groove ⑭ of the Mode Lever Ass'y ④ with the Mode Switch Ass'y protrusion ⑮, mount it on the axle ⑬, then insert pin ⑯ into the Cam S ass'y ⑰ outer groove.
7) Secure with the Washer Slit ③.
8) Mount the Lever Eject ② and close the claw ①.
9) Mount the Capstan Motor as described in section 2-3-2.

Note : When mounting the Mode Lever Ass'y ④ onto the axle ⑬ with the Arm Tension Ass'y installed, set the pin ⑱ to the arrow Ⓐ side of the Mode Lever Ass'y ④.

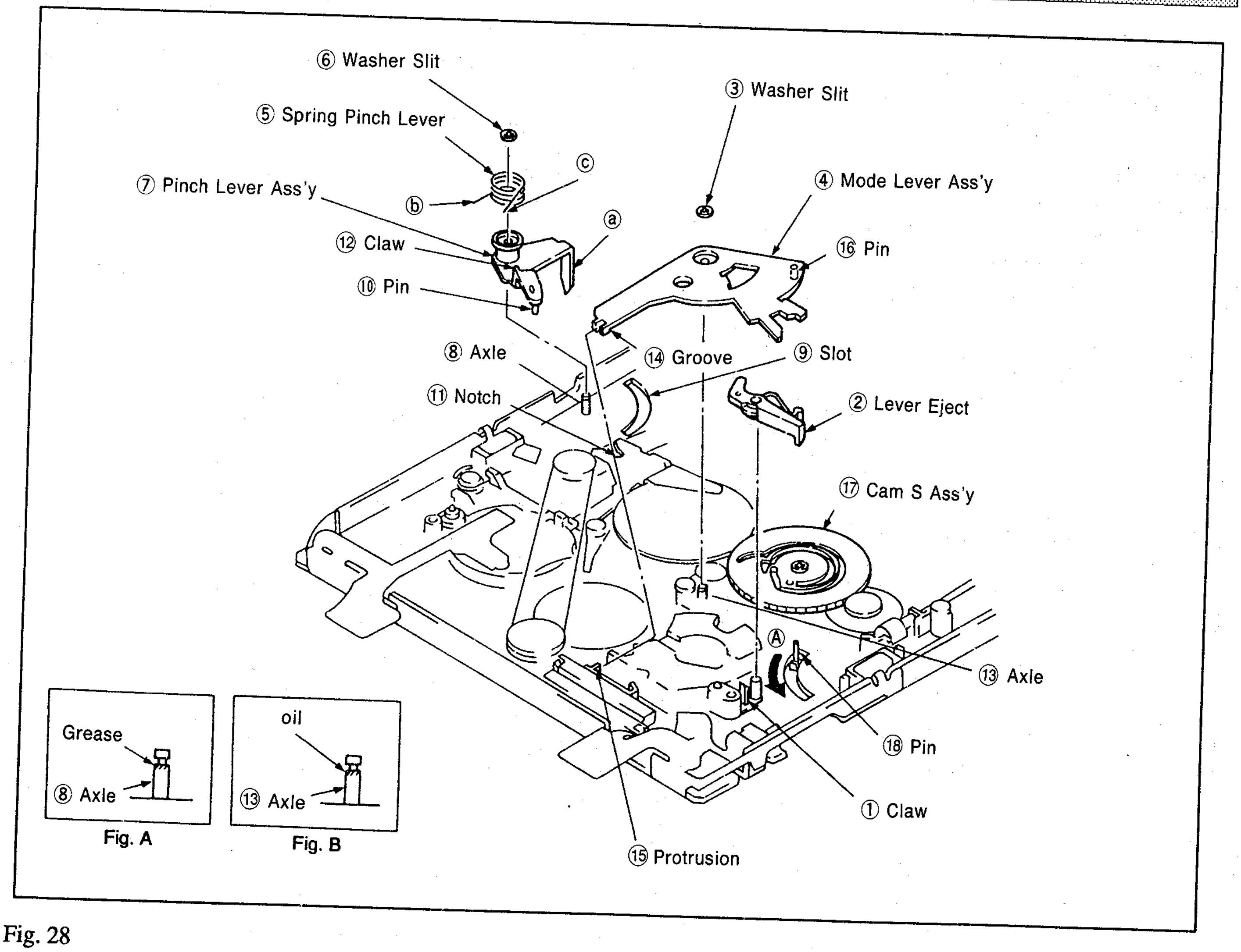

⑥ Washer Slit
⑤ Spring Pinch Lever
③ Washer Slit
ⓒ
⑦ Pinch Lever Ass'y
ⓑ
ⓐ
④ Mode Lever Ass'y
⑫ Claw
⑯ Pin
⑩ Pin
⑧ Axle
⑭ Groove
⑨ Slot
⑪ Notch
② Lever Eject
⑰ Cam S Ass'y
Ⓐ
⑬ Axle
⑱ Pin
① Claw
⑮ Protrusion
Grease
⑧ Axle
Fig. A
oil
⑬ Axle
Fig. B

Fig. 28

2-3-14. BELT TIMING IDLER, GEAR DRIVE IDLER ASS'Y, LOADING LEVER ASS'Y, BELT TIMING CAP., CAPSTAN GEAR ASS'Y

1. Removal (See Fig. 29)

1) Remove the Capstan Motor as described in section 2-3-2.
2) Remove the Pinch Lever Ass'y as described in section 2-3-13.
3) Set the STOP mode.
4) Remove the Washer Slit ①, then remove the Gear Drive Idler Ass'y ② from the axle ④ with the Belt Timing Idler ③ attached.
5) Remove the Belt Timing Idler ③ from the Relay Pulley Ass'y ⑤.
6) Remove the Washer Slit ⑥, then remove the Loading Lever Ass'y ⑦ from the axle ⑩ .
7) Remove the Capstan Gear Ass'y ⑨ from the axle ⑭ with the Belt Timing Cap. ⑧ attached.
8) Remove the Belt Timing Cap. ⑧ from the Relay Pulley Ass'y ⑤.

Note : When removing the Capstan Gear Ass'y ⑨, Do not touch the flange section ⓑ.

2. Installation (See Fig. 29)

Note : Mechanism must be in the unloaded position when installing these parts.

1) Apply oil to the axle ⑭ (See Fig. F).
2) Hook one end of the Belt Timing Cap. ⑧ onto the Capstan Gear Ass'y ⑨ (See Fig. D) and the other end onto gear ⓓ of the Relay Pulley Ass'y ⑤. (See Fig. E)
3) Mount the Capstan Gear Ass'y ⑨ with the Belt Timing Cap. ⑧ attached to the axle ⑭.
4) Apply oil to the axle ⑩ (See Fig. A).
5) Fit the Loading Lever Ass'y ⑦ to the axle ⑩, and place the pin ⑪ into the groove of the Cam T ass'y ⑫.
6) Install the Washer Slit ⑥.
7) Place the Belt Timing Idler ③ around the gears ⓐ of the Gear Drive Idler Ass'y ② indicated in Fig. B, and its opposite side around the gear ⓒ of the Relay Pulley Ass'y ⑤. (See Fig. E)
8) Mount the Gear Drive Idler Ass'y ② onto the axle ④ with the Belt Timing Idler ③ attached, and engage it with the gear of the Idler Ass'y ⑬ .
9) Install the Washer Slit ①.
10) Grease parts of the Loading Lever Ass'y ⑦ indicated in Fig. C.
11) Mount the Pinch Lever Ass'y as described in section 2-3-13.
12) Mount the Capstan Motor as described in section 2-3-2.

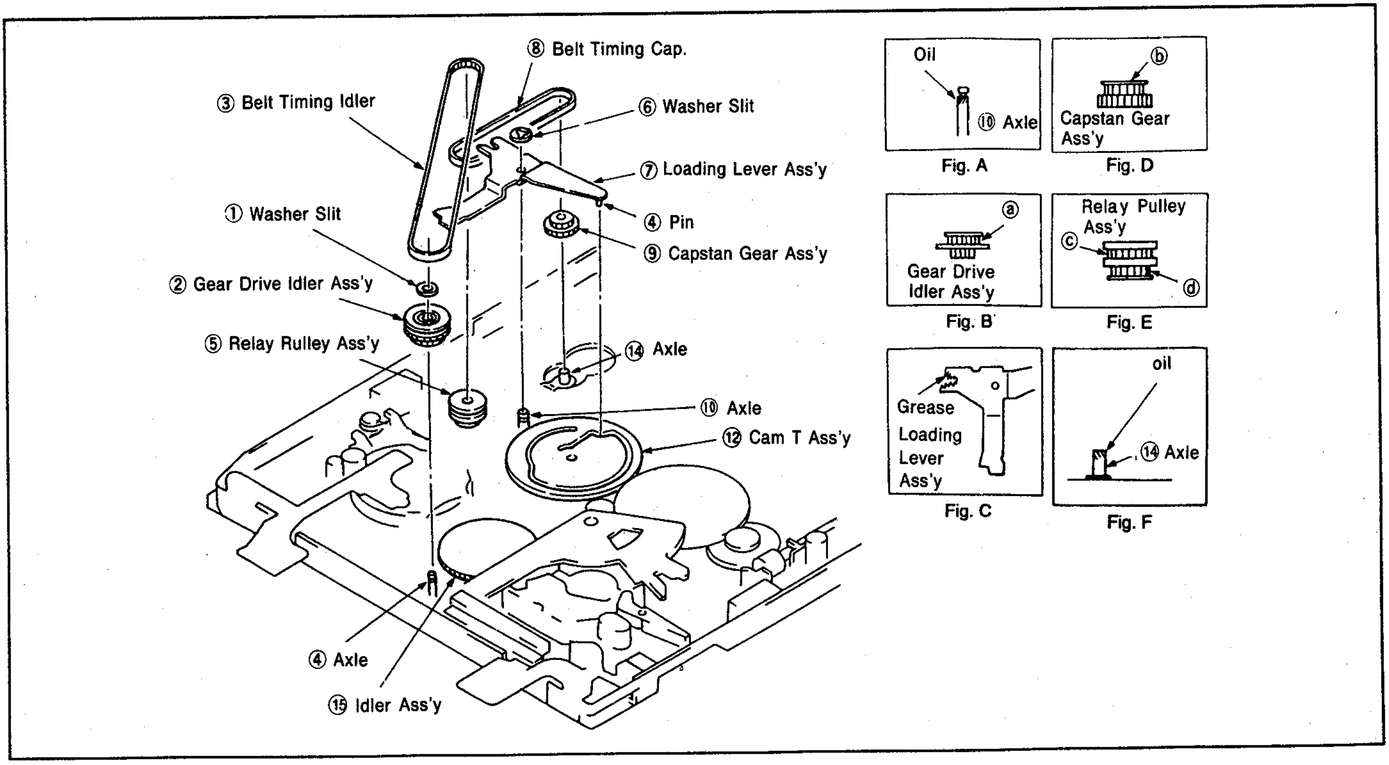

⑧ Belt Timing Cap.
③ Belt Timing Idler
⑥ Washer Slit
⑦ Loading Lever Ass'y
① Washer Slit
④ Pin
⑨ Capstan Gear Ass'y
② Gear Drive Idler Ass'y
⑤ Relay Rulley Ass'y
⑭ Axle
⑩ Axle
⑫ Cam T Ass'y
④ Axle
⑮ Idler Ass'y
Oil
⑩ Axle
ⓑ
Capstan Gear Ass'y
ⓐ
Gear Drive Idler Ass'y
Relay Pulley Ass'y
ⓒ
ⓓ
Grease
Loading Lever Ass'y
oil
⑭ Axle

Fig. A
Fig. D
Fig. B
Fig. E
Fig. C
Fig. F

Fig. 29

2-3-15. RELAY PULLEY ASS'Y, SOFT BRAKE ASS'Y, LB GEAR ASS'Y, IDLER ASS'Y

1. Removal (See Fig. 30)

1) Remove the Capstan Motor as described in section 2-3-2.
2) Remove the Mode Lever Ass'y as described in section 2-3-13.
3) Remove the Belt Timing Idler, the Gear Drive Idler Ass'y, the Loading Lever Ass'y, the Belt Timing Cap and the Capstan Gear Ass'y as described in section 2-3-14.
4) Set the STOP mode.
5) Remove the Washer Slit ①, then remove the Relay Pulley Ass'y ②.
6) Open the claw ③, then remove the Soft Brake Ass'y ④.
7) Remove the Spring LB ⑤.
8) Remove the Washer Slit ⑥, then remove the LB Gear Ass'y ⑦.
9) Remove the Idler Ass'y ⑧.

Note : When removing the Relay Pulley Ass'y ②,
Do not to touch the flange section ⓐ.(See Fig. C.)

2. Installation (See Fig. 30)

1) Apply oil to the axle ⑨ (See Fig. A).
2) Mount the Idler Ass'y ⑧ onto the axle ⑨, keeping it in horizontal position.
3) Apply oil to the axle ⑩ (See Fig. B).
4) Mount the LB Gear Ass'y ⑦ onto the axle ⑩ and secure it with the Washer Slit ⑥.
5) Insert the Spring LB ⑤ into the axle ⑪, then hook it to the mechanism chassis notch ⑫ and to the tab ⑬.
6) Mount the Soft Brake Ass'y ④ and close the claw ③.
7) Apply oil to the axle ⑭ (See Fig. D).
8) Mount the Relay Pulley Ass'y ② onto the axle ⑭, then secure it with the Washer Slit ①.
9) Mount the Belt Timing Idler, the Gear Drive Idler Ass'y, the Loading Lever Ass'y, the Belt Timming Cap. and the Capstan Gear Ass'y as described in section 2-3-14.
10) Mount the Mode Lever Ass'y as described in section 2-3-13.
11) Mount the Capstan Motor as described in section 2-3-2.

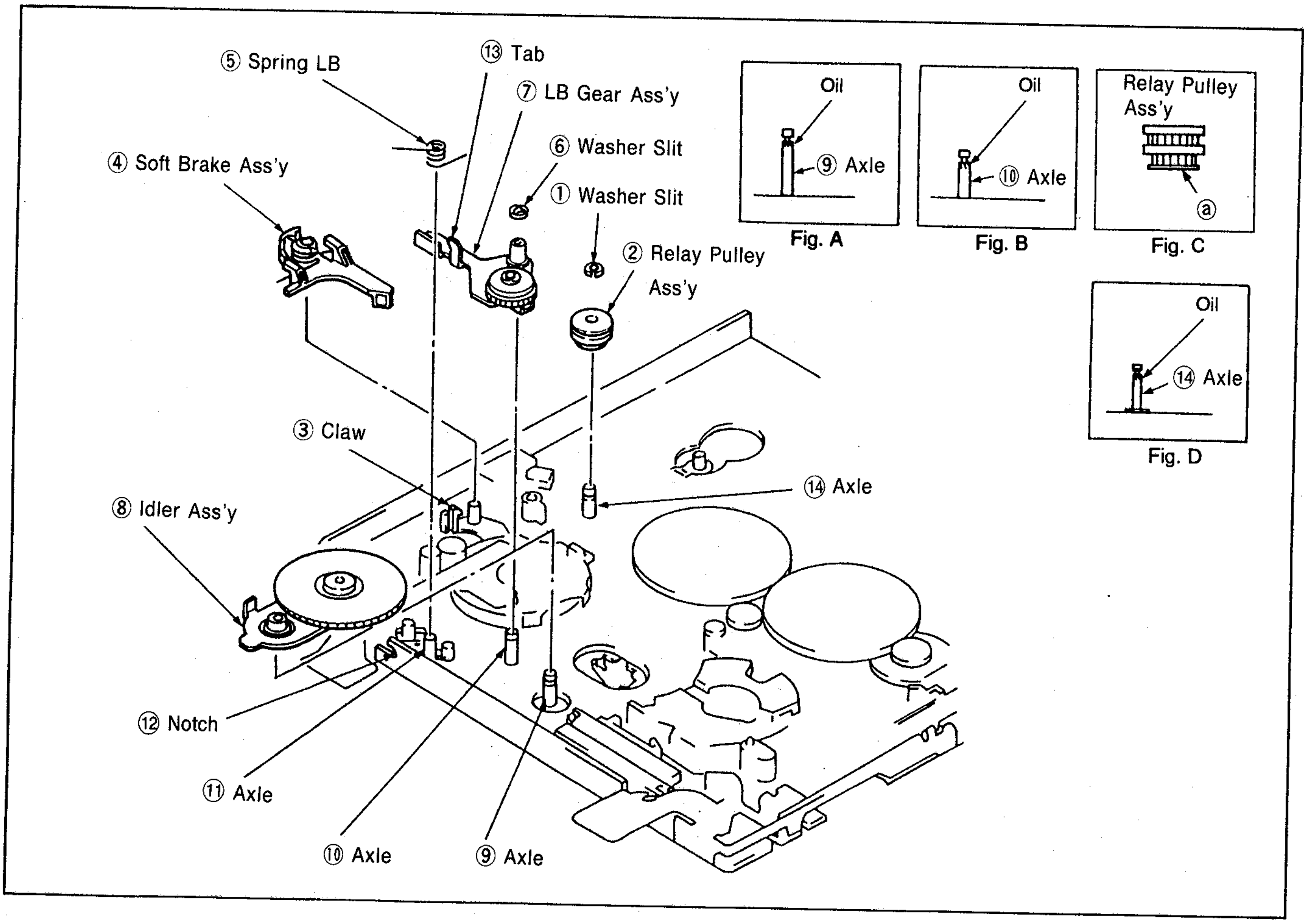

⑤ Spring LB
⑬ Tab
⑦ LB Gear Ass'y
⑥ Washer Slit
① Washer Slit
④ Soft Brake Ass'y
② Relay Pulley Ass'y
③ Claw
⑧ Idler Ass'y
⑭ Axle
⑫ Notch
⑪ Axle
⑩ Axle
⑨ Axle
Oil
⑨ Axle
Oil
⑩ Axle
Relay Pulley Ass'y
ⓐ
Oil
⑭ Axle

Fig. A

Fig. B

Fig. C

Fig. D

Fig. 30

2-3-16. GEAR UL.B, BRAKE UL, ARM UL.B, PLATE SPRING BRAKE

1. Removal (See Fig. 31)

1) Remove the Mode Lever Ass'y as described in section 2-3-13.
2) Remove the Washer Slit ①, then remove the Gear UL.B ②.
3) Remove the Arm UL.B ③, the Washer Plain ④ and the Plate Spring Brake ⑤.
4) Remove the Brake UL ⑥.

2. Installation (See Fig. 31)

1) Mount the Brake UL ⑥.
2) Apply oil to the axle ⑦ (See Fig. A).
3) Mount the Plate Spring Brake ⑤ to the axle ⑦ as shown in Fig. B, then install the Washer Plain ④.
4) Mount the Arm UL.B ③ to the axle ⑦ so that the protrusion ⑧ comes into the groove ⑨ of the Brake UL ⑥.
5) Mount the Gear UL.B ② to the axle ⑦ and engage it with the gear of the Cam S Ass'y ⑩.
6) Install the Washer Slit ①.
7) Mount the Mode Lever ass'y as described in section 2-3-13.

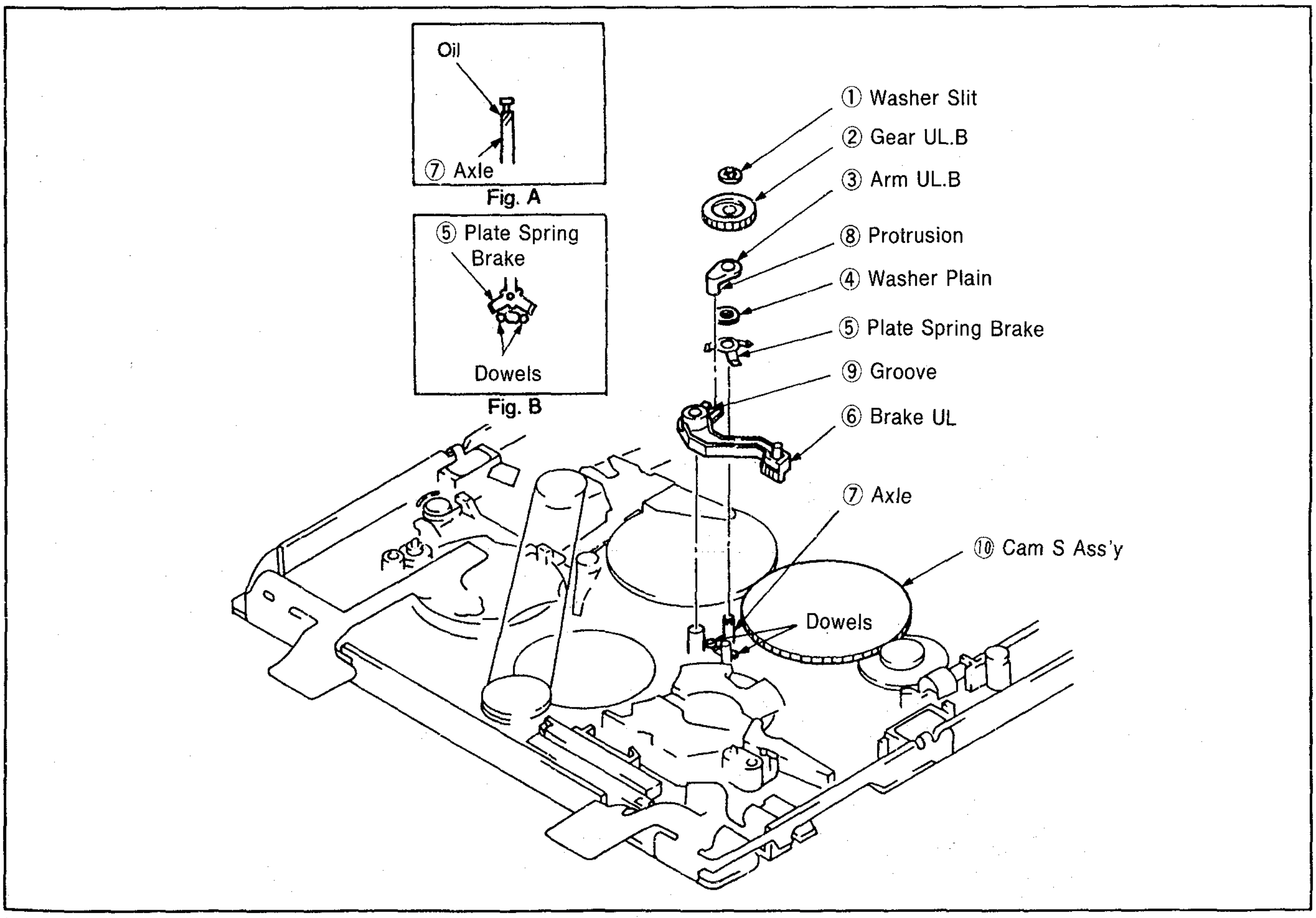

Oil
⑦ Axle
Fig. A
⑤ Plate Spring Brake
Dowels
Fig. B
① Washer Slit
② Gear UL.B
③ Arm UL.B
⑧ Protrusion
④ Washer Plain
⑤ Plate Spring Brake
⑨ Groove
⑥ Brake UL
⑦ Axle
⑩ Cam S Ass'y
Dowels

Fig. 31

2-3-17. POLE BASE T ASS'Y, CAM T ASS'Y

1. Removal (See Fig. 32)

1) Remove the Capstan Motor as described in section 2-3-2.
2) Remove the Drum Ass'y as described in section 2-3-12.
3) Remove the Mode Lever Ass'y as described in section 2-3-13.
4) Remove the Belt Timing Idler, the Gear Drive Idler Ass'y and the Loading Lever Ass'y as described in section 2-3-14.
5) Set the STOP mode.
6) Remove the screw ①, then remove the Plate Pole Base ② and the Pole Base T Ass'y ③.
7) Remove the two screws ④, then remove the Support T ⑤.
8) Remove the Washer Slit ⑥, then remove the Cam T Ass'y ⑦.

2. Installation (See Fig. 32)

1) Grease the points of the mechanism chassis shown in Fig. A.
2) Apply oil to the axle ⑧ (See Fig. F).
3) Grease pin ⑨, axle ⑩ and dowel ⑭ of the Pole Base T Ass'y ③ (See Fig. D).
4) Mount pole base ③ by aligning pin ⑨ and the axle ⑩ with the slot ⑪ of the mechanism chassis.
5) Move the Lever Cam Brake ⑫ in the direction of the arrow Ⓐ to put it out of the way.
6) Mount the Cam T Ass'y ⑦ to the axle ⑧, and engage it with the Cam S Ass'y ⑬ as shown in Fig. B.
7) Align the ⓐ part with the ⓑ part, and the hole ⑭ with the pin ⑨ of the Pole Base T Ass'y ③.
8) Install the Washer Slit ⑥.
9) Mount by aligning the Plate Pole Base ② with the axle ⑩ of the Pole Base T Ass'y ③ and pin ⑨, then secure with the screw ①.
10) Mount the Support T ⑤ aligning it with the dowel ⑮, then tighten the two screws ④ in the indicated order.
11) Grease the points indicated in Figs. C and E.
12) Mount the Belt Timing Idler, the Gear Drive Idler Ass'y and the Loading Lever Ass'y as described in section 2-3-14.
13) Mount the Mode Lever Ass'y as described in section 2-3-13.
14) Mount the Drum Ass'y as described in section 2-3-12.
15) Mount the Capstan Motor as described in section 2-3-2.

Note :

- Screw ① should be tightened with a tightening torque of approx. 500g.cm.If tightened too much, the Pole Base T Ass'y ③ and the Plate Pole Base ② will be deformed.
- After installing, be sure to perform tape path adjustment as described in section 3.

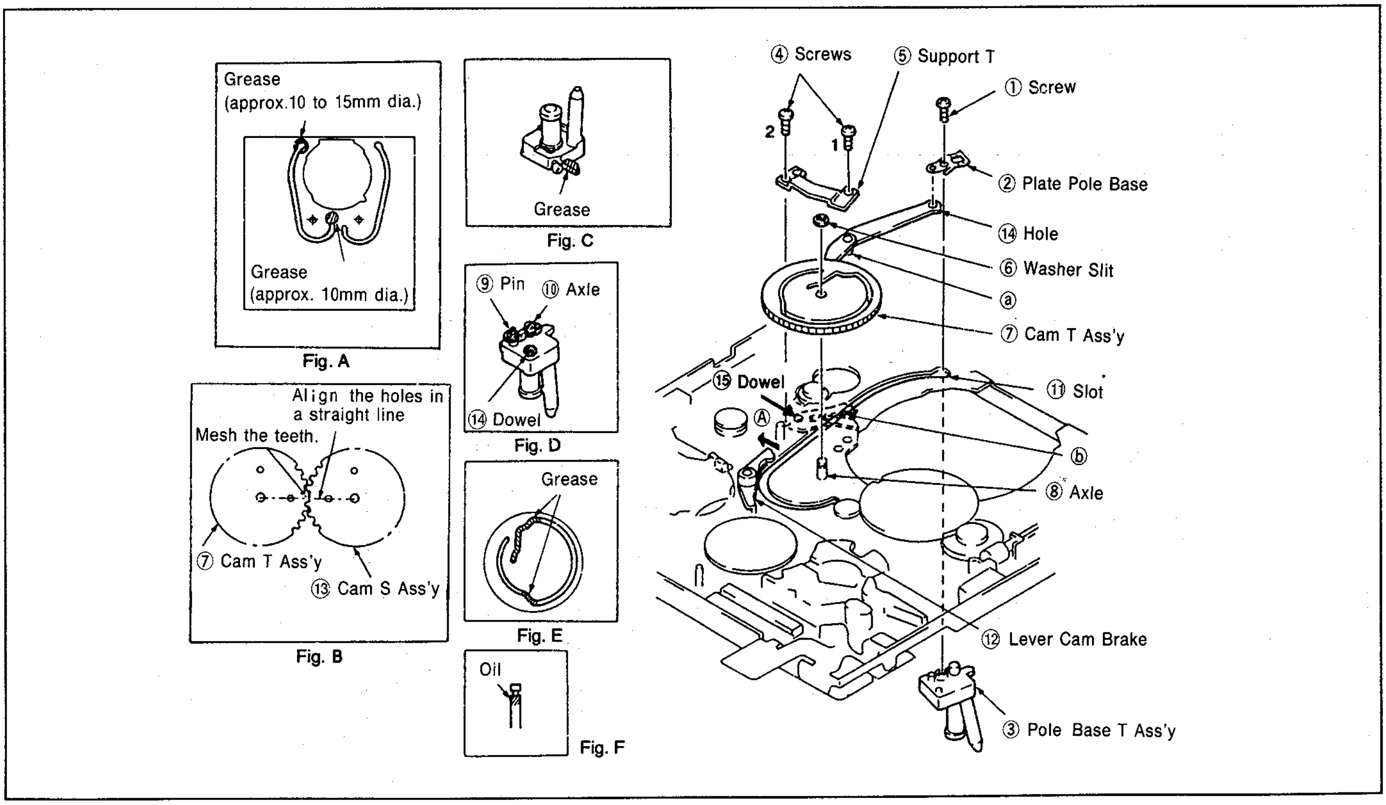

Grease
(approx.10 to 15mm dia.)
Grease
(approx. 10mm dia.)
Fig. A
Align the holes in a straight line
Mesh the teeth.
⑦ Cam T Ass'y
⑬ Cam S Ass'y
Fig. B
Grease
Fig. C
⑨ Pin
⑩ Axle
⑭ Dowel
Fig. D
Grease
Fig. E
Oil
Fig. F
④ Screws
⑤ Support T
① Screw
2
1
② Plate Pole Base
⑭ Hole
⑥ Washer Slit
ⓐ
⑦ Cam T Ass'y
⑮ Dowel
Ⓐ
⑪ Slot
ⓑ
⑧ Axle
⑫ Lever Cam Brake
③ Pole Base T Ass'y

Fig. 32

2-3-18. POLE BASE S ASS'Y, CAM S ASS'Y

1. Removal (See Fig. 33)

1) Remove the Capstan motor as described in section 2-3-2.
2) Remove the Drum Ass'y as described in section 2-3-12.
3) Remove the Mode Lever Ass'y and the Pinch Lever Ass'y as described in section 2-3-13.
4) Remove the Belt Timing Idler, the Gear Drive Idler Ass'y and the Loading Lever Ass'y as described in section 2-3-14.
5) Remove the Pole Base T Ass'y and the Cam T Ass'y as described in section 2-3-17.
6) Remove the two screws ④, then remove the Support S Ass'y ⑤.
7) Remove the screw ①, then remove the Plate Pole Base ② and the Pole Base S Ass'y ③.
8) Remove the Washer Slit ⑥, then remove the Cam S Ass'y ⑦.

2. Installation (See Fig. 33)

1) Grease the points of the mechanism chassis shown in Fig. A.
2) Apply oil to the axle ⑧ (See Fig. E).
3) Grease pin ⑨, axle ⑩ and dowel ⑯ of the Pole Base S Ass'y ③ (See Fig. B).
4) Mount pole base ③ by aligning pin ⑨ and the axle ⑩ with the slot ⑪ of the mechansim chassis.
5) Fit the Cam S Ass'y ⑦ to the axle ⑧, and mount so that the gear engages with the Gear Drive Cam ⑫ and the Gear UL.B⑬.
6) Align the ⓐ part with slot ⑪, and the hole ⑭ with the pin ⑨ of the Pole Base S Ass'y ③.
7) Install the Washer Slit ⑥.
8) Mount by aligning the Plate Pole Base ② with the axle ⑩ and pin ⑨ of the Pole Base S Ass'y ③, then secure with the screw ①.
9) Mount the Support S Ass'y ⑤ aligning it with the dowel ⑮, then tighten the two screws ④ in the indicated order.
10) Grease points indicated in Figs. C and D.
11) Mount the Pole Base T Ass'y and the Cam T Ass'y as described in section 2-3-17.
12) Mount the Belt Timing Idler, the Gear Drive Idler Ass'y and the Loading Lever Ass'y as described in section 2-3-14.
13) Mount the Mode Lever Ass'y and the Pinch Lever Ass'y as described in section 2-3-13.
14) Mount the Drum Ass'y as described in section 2-3-12.
15) Mount the Capstan Motor as described in section 2-3-2.

Note :

- Screw ① should be tightened with a tightening torque of approx. 500g.cm. If tightened too much, the Pole Base S Ass'y ③ and the Plate Pole Base ② will be deformed.
- After installing, be sure to perform tape path adjustment as described in section 3.

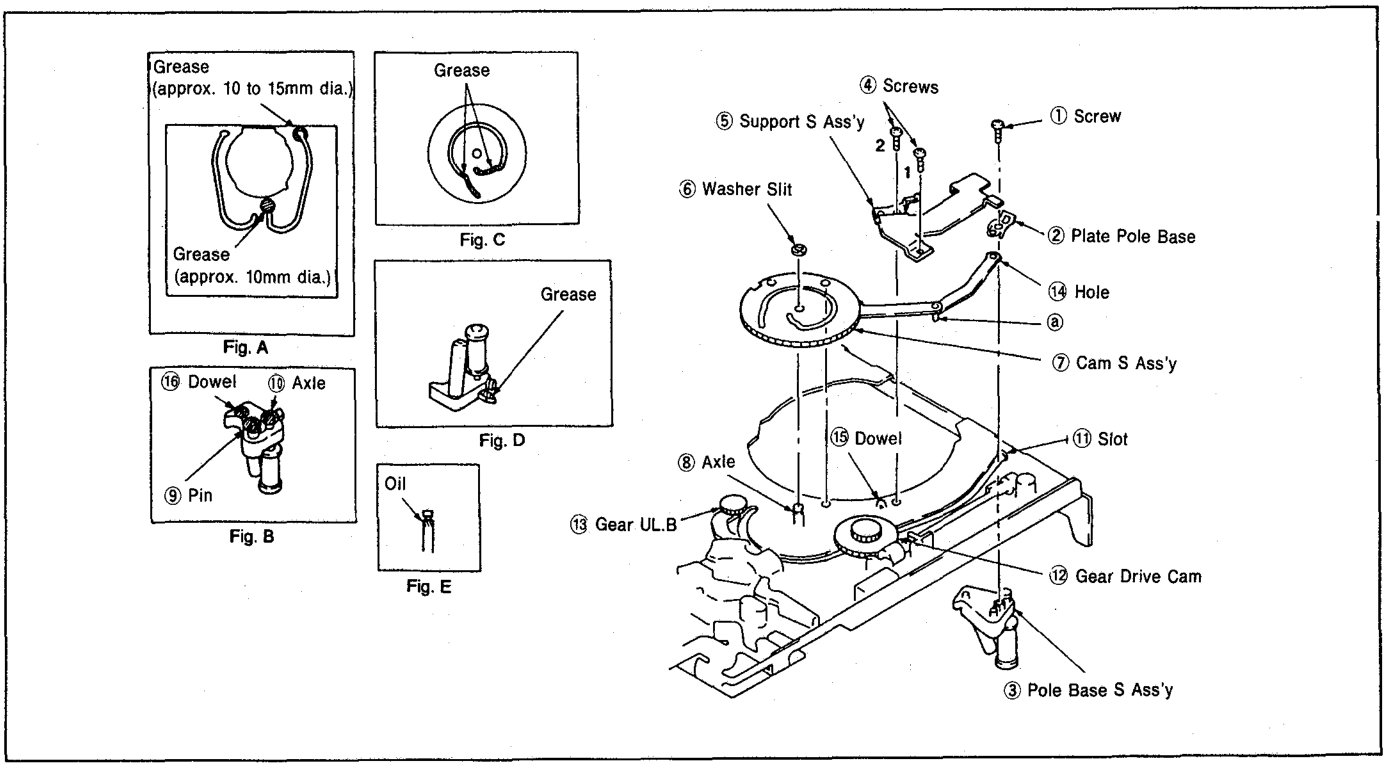

Grease
(approx. 10 to 15mm dia.)
Grease
(approx. 10mm dia.)
Fig. A
Grease
Fig. C
Grease
Fig. D
⑯ Dowel
⑩ Axle
⑨ Pin
Fig. B
Oil
Fig. E
④ Screws
⑤ Support S Ass'y
① Screw
2
1
⑥ Washer Slit
② Plate Pole Base
⑭ Hole
ⓐ
⑦ Cam S Ass'y
⑮ Dowel
⑪ Slot
⑧ Axle
⑬ Gear UL.B
⑫ Gear Drive Cam
③ Pole Base S Ass'y

Fig. 33

2-3-19. LOADING MOTOR ASS'Y, LEVER CAM BRAKE, GEAR DRIVE CAM, WORM ASS'Y

1. Removal (See Fig. 34)

1) Remove the Capstan motor as described in section 2-3-2.
2) Remove the Mode Lever Ass'y and the Pinch Lever Ass'y as described in section 2-3-13.
3) Remove the Belt Timing Idler, the Gear Drive Idler Ass'y and the Loading Lever Ass'y as described in section 2-3-14.
4) Remove the Cam T Ass'y as described in section 2-3-17.
5) Remove the Cam S Ass'y as described in section 2-3-18.
6) Remove the two screws ①, then remove the Loading Motor Ass'y ②.
7) Remove the Lever Cam Brake ③.
8) Remove the Washer Slit ④, then remove the Gear Drive Cam ⑤.
9) Remove the Worm Ass'y ⑥ from the six claws ⑦.

2. Installation (See Fig. 34)

1) Mount the Worm Ass'y ⑥, matching it to the six claws ⑦.
2) Grease the shaded parts of the Worm Ass'y ⑥ (five places) (See Fig. A).
3) Apply oil to the axle ⑧ (See Fig. B).
4) Fit the Gear Drive Cam ⑤ to the axle ⑧ and engage it with the gear of the Worm Ass'y ⑥.
5) Install the washer slit ④.
6) Mount the Lever Cam Brake ③.
7) Grease the whole perimeter on the gear of the Loading Motor Ass'y ②.
8) Align the Loading Motor Ass'y ② with the mechanism chassis and secure it with the two screws ②.
9) Mount the Cam S Ass'y as described in section 2-3-18.
10) Mount the Cam T Ass'y as described in section 2-3-17.
11) Mount the Belt Timing Idler, the Gear Drive Idler Ass'y and the Loading Lever Ass'y as described in section 2-3-14.
12) Mount the Mode Lever Ass'y and the Pinch Lever Ass'y as described in section 2-3-13.
13) Mount the Capstan Motor as described in section 2-3-2.

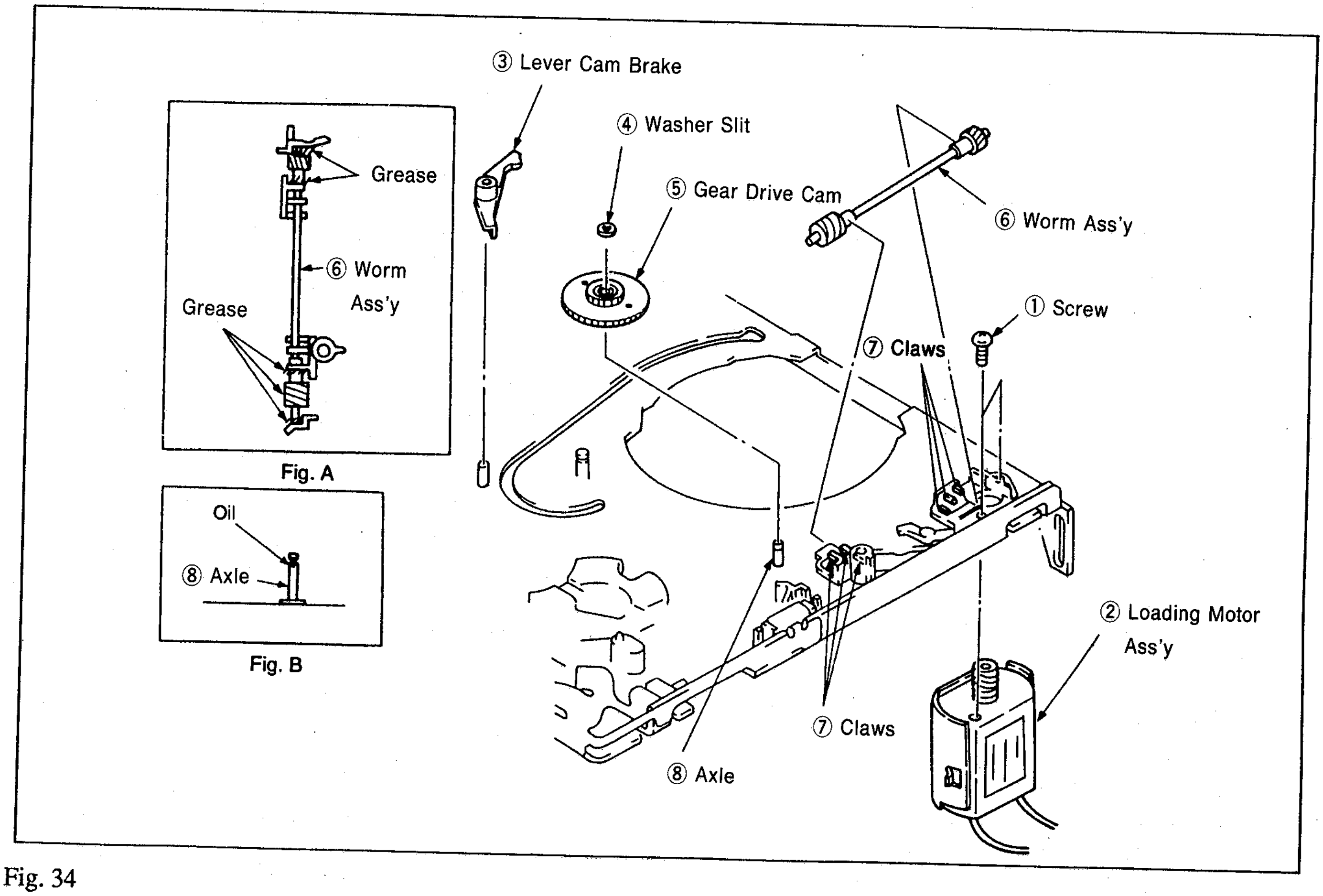


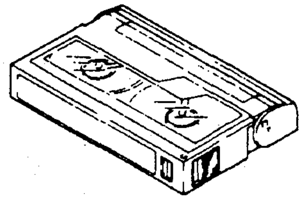
Fig. 34

3. MECHANICAL ADJUSTMENT

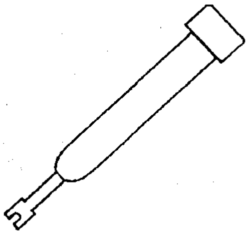
3-1. LIST OF SERVICING JIGS

REF.NO.	JIG ITEM	CODE NO.	SPECIFICATION	DESCRIPTION
J-1	ALIGNMENT TAPE	68140-200-108 68140-200-109 68140-200-110 68140-200-111 68140-200-112	PAL ; SE1-2L PAL ; SE2-2 PAL ; SE2-2L PAL ; SE4-2L PAL ; SEM-2L	; LP LION PATTERN : 400Hz ; SP COLOR BAR : 400Hz ; LP COLOR BAR : 400Hz ; TAPE PATH ; H'd Q ADJUSTMENT
J-2	GUIDE ROLLER ADJUSTING DRIVER	68140-200-113	-	; Use for height adjustment of Guide Roller for envelope linearity adjustment.
J-3	IMPEDANCE ROLLER HEIGHT ADJUSTMENT JIG	68140-200-114	-	; Use for height adjustment of Impedance Roller.
J-4	EXTENSION CABLE	68140-200-115	4 PIN	; Use for T/S connecting cable between DRIVE Board (CN001) and MATRIX Board (CN101) of CAMERA Section.
J-5	EXTENSION CABLE	68140-200-116	10 PIN	; Use for T/S connecting cable between DRIVE Board (CN002) and MATRIX Board (CN102) of CAMERA Section.
J-6	EXTENSION CABLE	68140-200-117	13 PIN	; Use for T/S connecting cable between DRIVE Board (CN003) and MATRIX Board (CN103) of CAMERA Section.
J-7	EXTENSION CABLE	68140-200-118	14 PIN	; Use for T/S connecting cable between DRIVE Board (CN004) and DIGITAL Board (CN503) of CAMERA Section.
J-8	EXTENSION CABLE	68140-200-119	9 PIN (2EA)	; Use for T/S connecting cable between PROCESS Board (CN304, CN305) of CAMERA Section and VIDEO Board(CN254, CN253) of VTR Section.
J-9	EXTENSION CABLE	68140-200-121	2 PIN	; Use for T/S connecting cable between VIDEO Board (W220) of VTR Section and PROCESS Board (CN303) of CAMERA Section.
J-10	BACK TENSION CASSETTE TAPE	68140-200-123	-	; Use for back tension adjustment of supply reel.
J-11	CAMERA SECTION FIXING JIG	68140-100-218	-	; Use for fixing CAMERA when adjustment or checking CAMERA Section.
J-12	VIDEO SIGNAL INPUT CABLE	68140-200-122	-	; Use for color bar signal input cable of connector J202 of VIDEO Board (VTR Section).

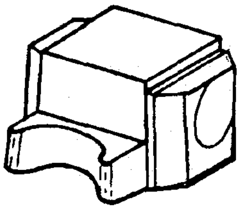
J-1



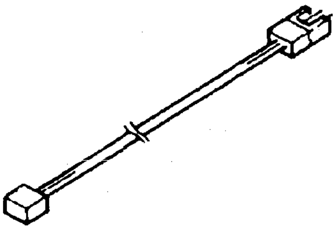
J-2



J-3



J-4



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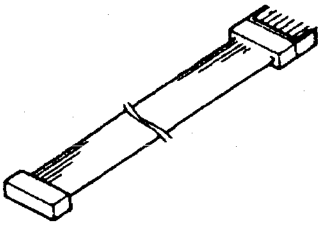
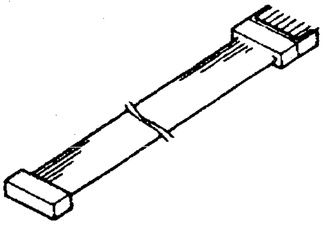
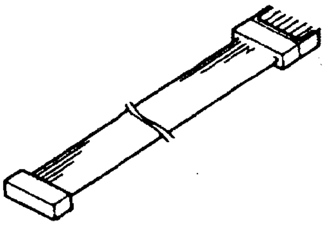


J-6



J-7



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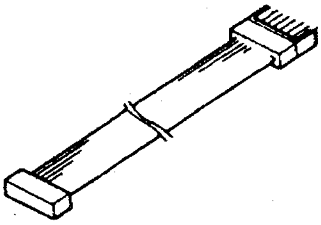

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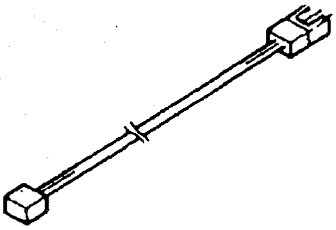

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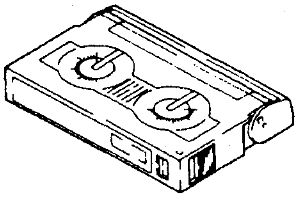
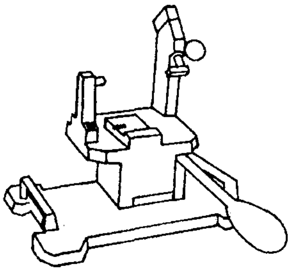
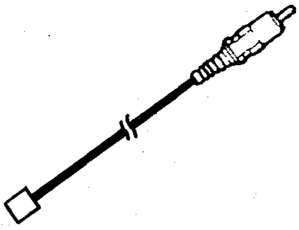


J-11



J-12



3-2. PLAY BACK TENSION ADJUSTMENT (See Fig. 1)

1) Set the torque cassette.
2) Set the PLAY mode and confirm that Reel Disk S torque value is within 10±2g. cm.
3) If the torque value does not meet the specification, adjust the Adjust Tension Spring ①.

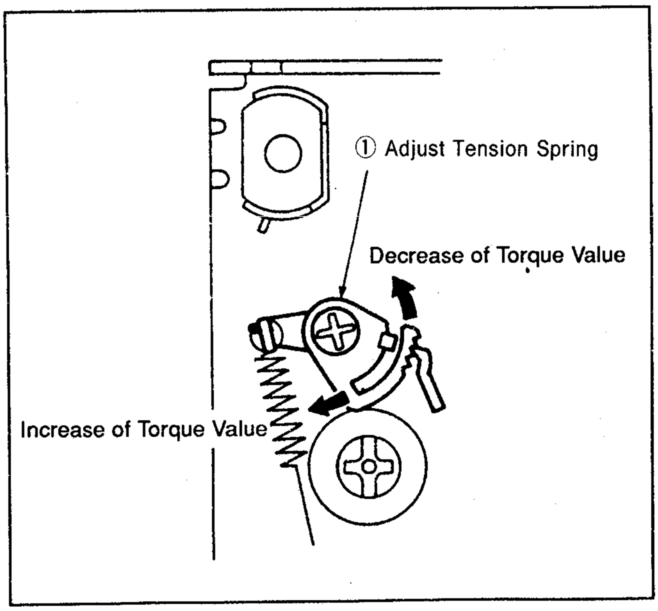


Fig. 1

3-3. REEL TORQUE CHECK

1) Set the torque cassette.
2) Set the PLAY mode and confirm that Reel Disk T torque value is within 12±4 g.cm.
3) Set the REV mode and confirm that Reel Disk S torque value is within 23 to 32 g.cm.
4) Set the REV mode and confirm that Reel Disk T torque value is within 13 to 25 g.cm .
5) If a torque value does not meet the specifications above, replace the corresponding Reel Disk.

3-4. TAPE PATH ADJUSTMENT

【The Track Shift Mode】

In the 8mm video system, instantaneous tape speed control is performed using four kinds of pilot signals, and high-precision tracking is achieved through the ATF(Automatic Track Finding) system. This makes a tracking control knob unnecessary and allows for precise tracking.
On the other hand, tape path adjustment presents some difficulties when the ATF system is used. Namely,since the ATF system will automatically compensate to some degree for head tracing errors, thorough adjustment is not possible. This can be solved by setting the track shift mode for tracking fine adjustment. ATF will be compulsorily activated, shifting the tracking amount by a fixed amount (approx. 1/4) and thus making tracking fine adjustment easy. Furthermore, no track shift jigs are required.

3-4-1. Track Shift Mode Setting

【Setting Procedure】

- Connect the pin ① and pin ③ to the pin ② (common) (See Fig. 2)

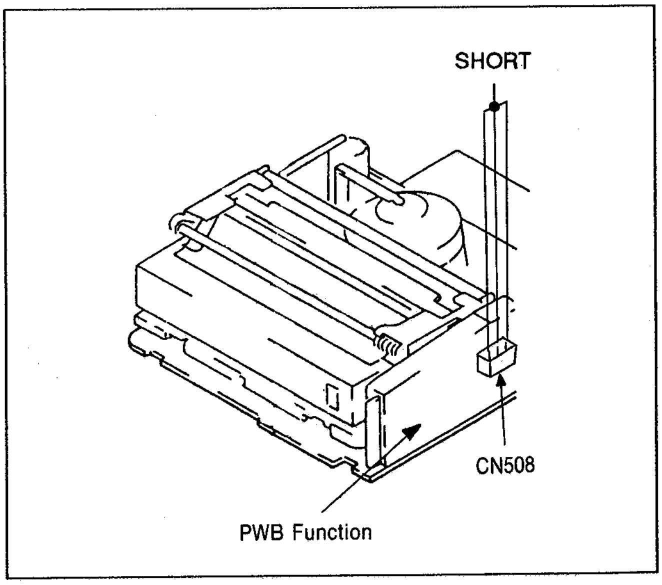


Fig. 2

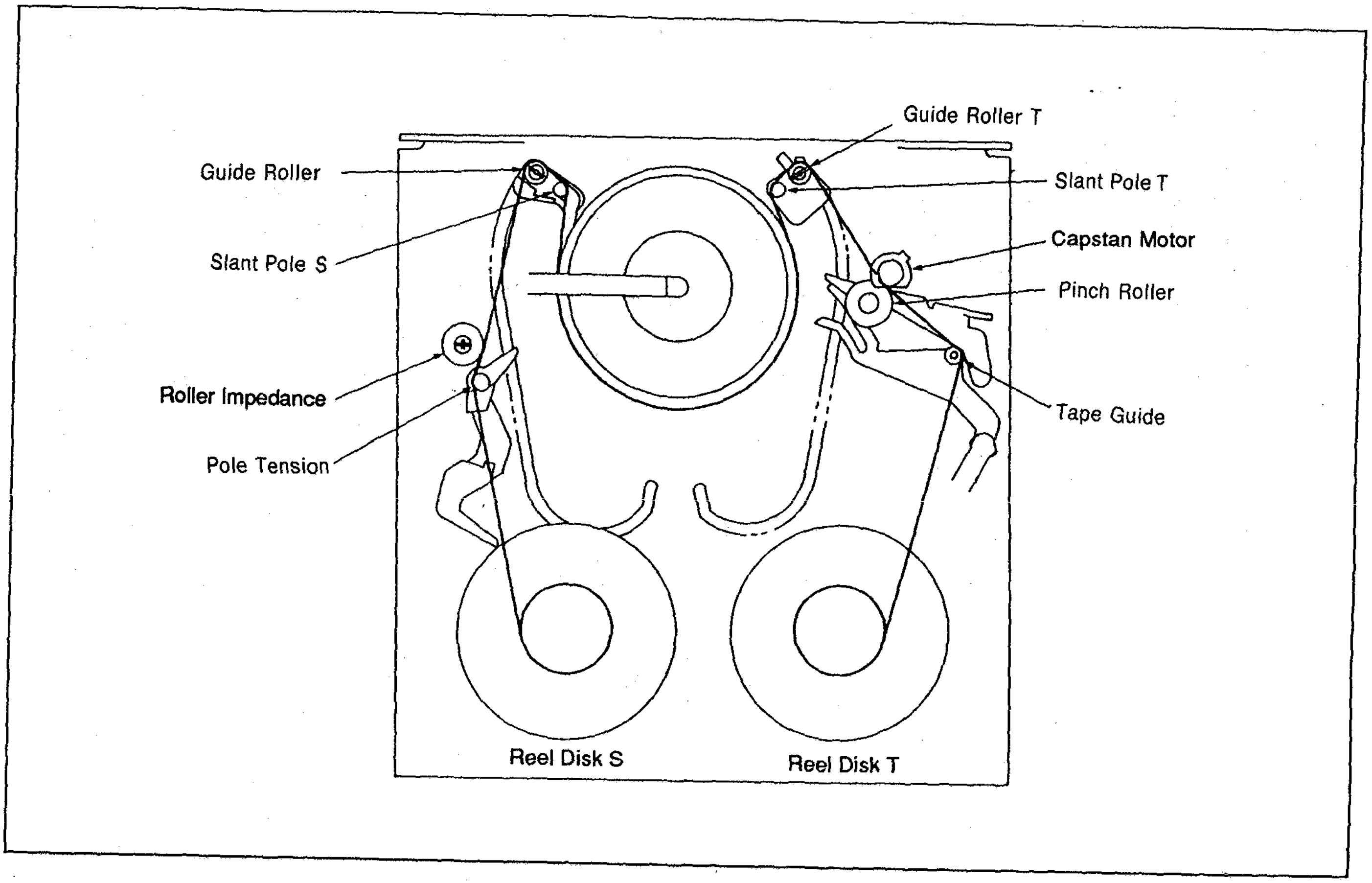

Guide Roller T
Guide Roller
Slant Pole T
Slant Pole S
Capstan Motor
Pinch Roller
Roller Impedance
Tape Guide
Pole Tension
Reel Disk S
Reel Disk T

Fig. 3

3-4-2. PREPARATIONS FOR ADJUSTMENT

1) Clean tape path surfaces (tape guides, drum, capstan shaft, pinch roller). (See Fig. 3)
2) Connection of oscilloscope and output method of waveform. (See Page 5-17)
   CH 1 : Connect the D FF (TP503)
   CH 2 : Connect the PB RF (TP504)
3) Play back the alignment tape for tracking adjustment.
4) Confirm that both the entrance and exit side RF waveforms of the oscilloscope are flat (See Fig. 4). If they are not, adjust as follows.

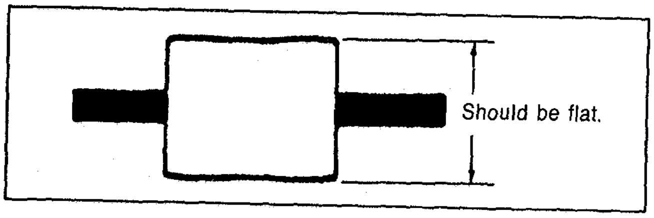

Should be flat.

Fig. 4

3-4-3. TRACKING ADJUSTMENT (See Fig. 5)

1) Play back the alignment tape for tracking adjustment.
2) Pass a hexagonal wrench, screwdriver or the like through the hole ①, loosen the Screw Pole Base ② a little, then make the entrance side waveform flat by turning the Guide Roller S ③.
3) Pass a hexagonal wrench, screwdriver or the like through the hole ④, loosen the Screw Pole Base ⑤ a little, then make the exit side waveform flat turning the Guide Roller T ⑥.

Note : Take care not to loosen Screw Pole Base ② and ⑤ too much, since Guide Roller S ③ and Guide Roller T ⑥ come loose easily.

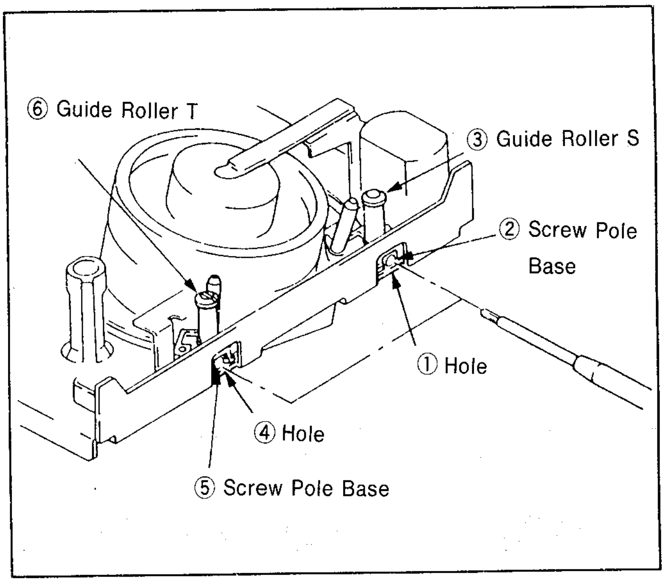


Fig. 5

3-4-4. TRACKING FINE ADJUSTMENT (See Figs. 5 and 6)

1) Play back the alignment tape for tracking adjustment and set the track shift mode.
2) Confirm whether the waveform is flat. If it is not, turn the Guide Roller S ③ and Guide Roller T ⑥ so that it becomes flat.
3) Fix the Guide Roller S ③ by tightening its Screw Pole Base ②. Then confirm that entrance side waveform has not changed.
4) Fix the Guide Roller T ⑥ by tightening its Screw Pole Base ⑤. Then confirm that exit side waveform has not changed.

Note : The Screw Pole Base ② and ⑤ should be tightened with a tightening torque of approx. 200g.cm ±10%. If tightened too much, there is danger of damaging the thread.

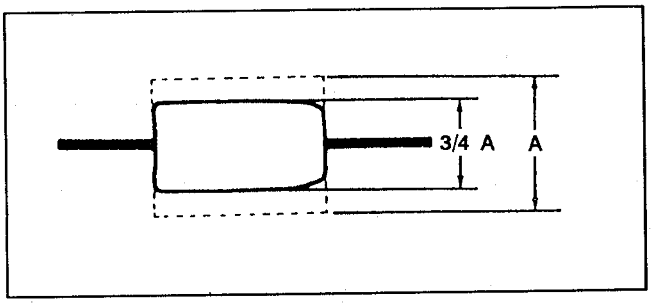


Fig. 6

(Reference)
This mechanism is equipped with four adjustable guides (Roller Impedance, Guide Roller S, Guide Roller T, Tape Guide). To raise or lower the respective guide rotate the corresponding adjustment screw as shown below.

Guide	Guide adjustment	Rotating direction of adjustment screw
Roller Impedance, Guide Roller S, Guide Roller T, Tape Guide	Raise	Counterclockwise
	Lower	Clockwise

3-4-5. ROLLER IMPEDANCE ADJUSTMENT

When the Roller Impedance has been turned or replaced, perform height presetting before this adjustment.

1. Roller Impedance Height Presetting (See Fig. 7)

1) Adjust the height from the mechanism chassis upper surface to the Cap Impedance ① upper surface to 18.6 mm by rotating the Cap Impedance ①.

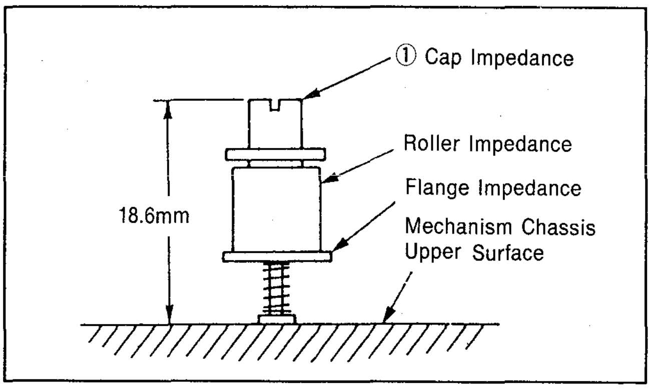

① Cap Impedance
Roller Impedance
Flange Impedance
Mechanism Chassis Upper Surface
18.6mm

Fig. 7

2. Roller Impedance Adjustment (See Figs. 8 and 9)

1) Play back a tape and set the REV mode.
2) Confirm that the tape is not bent at the Hange Impedance ② of the Roller Impedance ① (See Fig 8). If it is, turn the Cap Impedance ③ of the Roller Impedance ① clockwise with a screwdriver, lowering it until the tape is straightened.
3) Play back the alignment tape for tracking adjustment.
4) Perform tracking adjustment and tracking fine adjustment as described in sections 3-4-3 and 3-4-4.
5) In the track shift mode, CUE/REV the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds.
6) If the waveform is not normal (See Fig. 9), turn the Cap Impedance ③ of the Roller Impedance ① 90° counterclockwise and repeat step 5.
Repeat steps 5 and 6 until a normal waveform is obtained. Then, confirm that the tracking waveform has not changed. If it has, perform fine adjustment of entrance side tracking and repeat step 5.

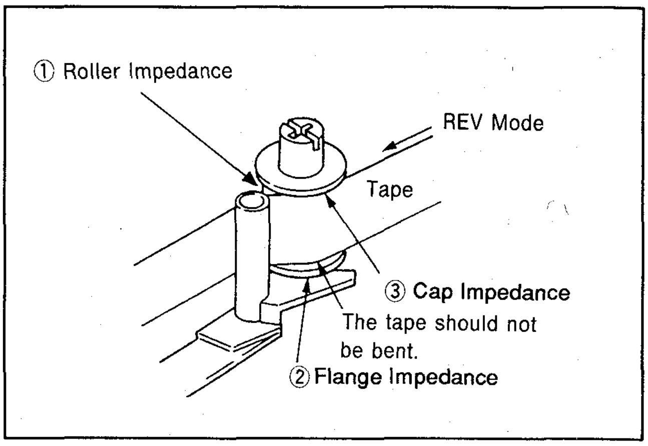

① Roller Impedance
REV Mode
Tape
③ Cap Impedance
The tape should not be bent.
② Flange Impedance

Fig. 8

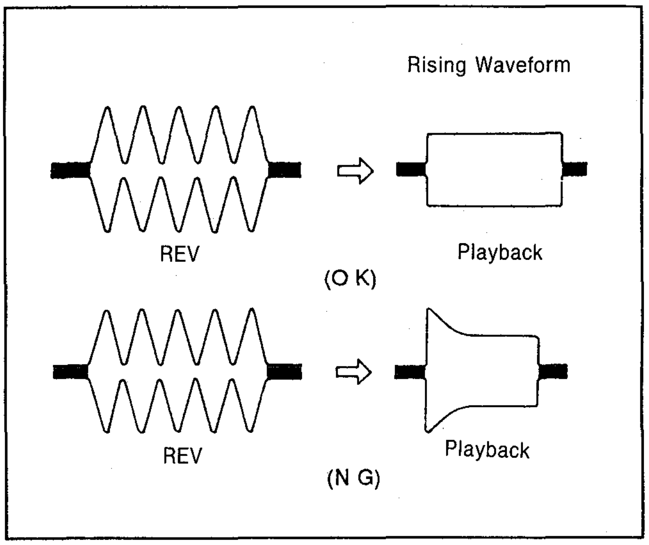

Rising Waveform
REV
Playback
(O K)
REV
Playback
(N G)

Fig. 9

3-4-6. TAPE GUIDE ADJUSTMENT (See Fig. 10)

1) Play back the alignment tape for tracking adjustment and set the REV mode.
2) Confirm that the tape is not bent between the Guide Roller T ① and the Capstan Motor ②. If it is, turn the Tape Guide ③ until the tape is straightened.
3) Set the playback mode again and confirm that the tape is not bent between the Capstan Motor ② and the Tape Guide (specification : 0.5mm or less). If the tape is bent beyond the specification, turn the Tape Guide ③ until bending is within the specification (0.5mm).
   If in the REV mode tape bending between the Guide Roller T ① and the Capstan Motor ② is 0.3 mm or less, adjustment can be considered completed.

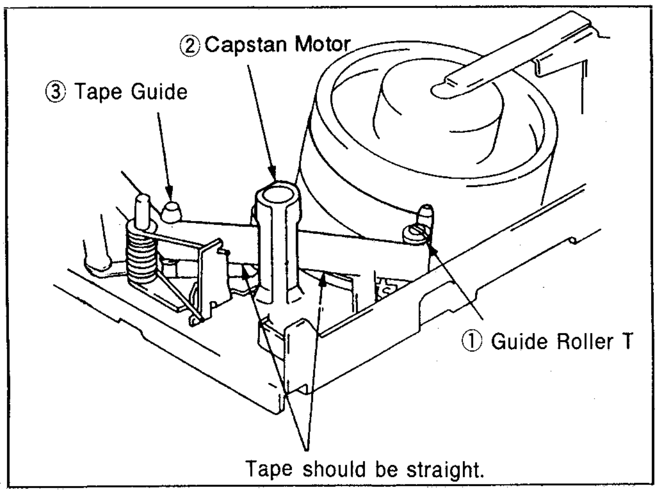


Fig. 10

3-4-7. CUE AND REV WAVEFORM CHECK (See Fig. 11)

1) Play back the alignment tape for tracking adjustment and set the REV mode. Confirm that waveform peaks maintain a constant pinch of 5 seconds or more(See Fig. 11). In case pitch is not constant, perform section 3-4-4 . Tracking Fine Adjustment and section 3-4-6. Tape guide adjustment.
2) Set the CUE mode. Confirm that waveform peaks still maintain a constant pitch of 5 seconds or more (See Fig. 11). Otherwise, Perform section 3-4-4. Tracking Fine Adjustment.

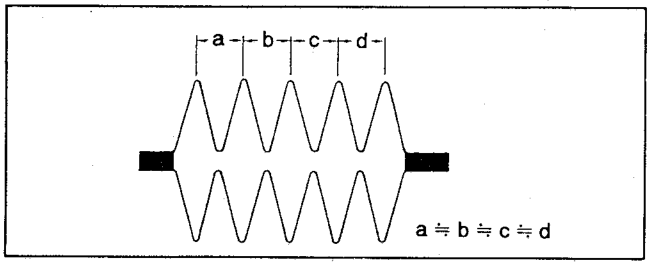


Fig. 11

3-4-8. CHECK AFTER ADJUSTMENT

1. Tracking Check

1) Confirm that the amplitude of RF waveform is reduced to approx. 3/4 when the track shift mode is set (See Fig. 12).
2) Then, confirm that the minimum amplitude value (EMIN) is 65% of the maximum value (EMAX) or larger (See Fig. 13).
3) Confirm that no large fluctuations occur on the waveform (See Fig. 14).

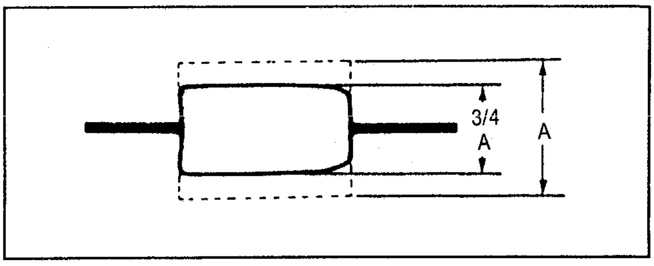


Fig. 12

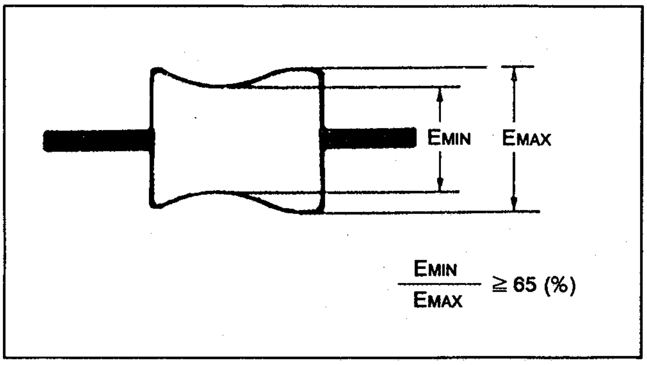


Fig. 13

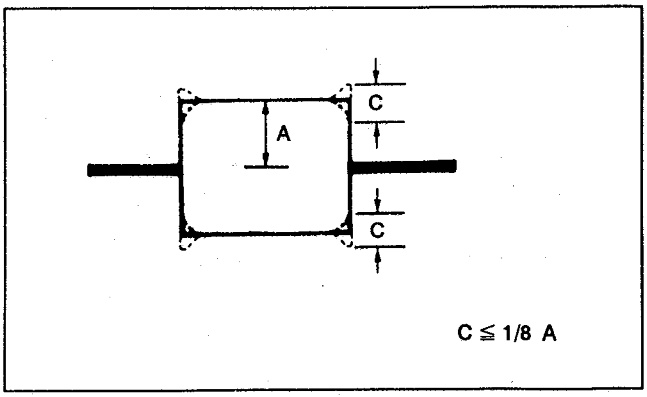


Fig. 14

2. Rising Check (See Fig. 15)

1) Play back the alignment tape for tracking adjustment.
2) Cancel the track shift mode.
3) Eject the tape, then load it again.
4) Set the playback mode and confirm that the RF waveform rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller (See Fig. 15).
5) CUE/REV and FF/REW the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller.
6) Repeat steps 3) to 5) once more.

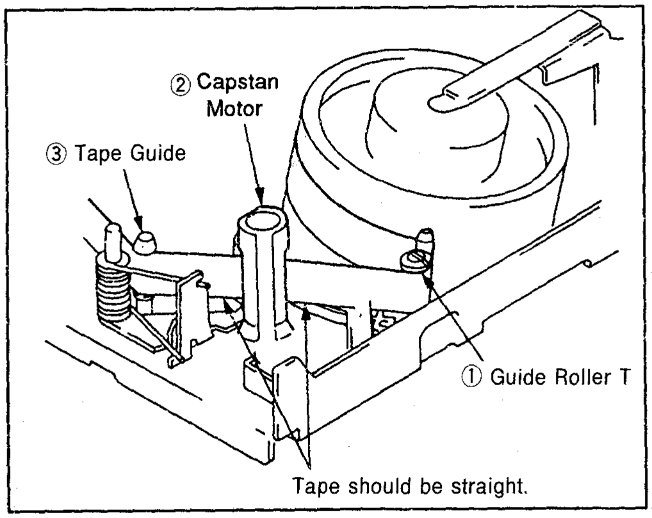

② Capstan Motor
③ Tape Guide
① Guide Roller T
Tape should be straight.

Fig. 15

3. Tape Path Check (See Fig. 16)

1) Play back a tape and confirm that no tape rising occurs, and that curling is less than 0.3mm, at the lower flange of the Roller Impedance, the upper flange of the Guide Roller S, the upper flange of the Guide Roller T and the Tape guide upper and lower flanges.
2) Confirm that no tape rising occurs and that curling is less than 0.3mm at the flanges of all guide when pressing the FF button in the playback mode to set the CUE mode, or the REW button to set the REV mode.

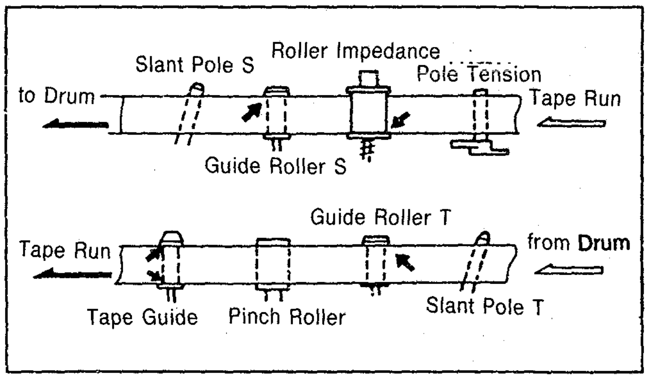

Slant Pole S
Roller Impedance
Pole Tension
to Drum
Tape Run
Guide Roller S
Guide Roller T
Tape Run
from Drum
Tape Guide
Pinch Roller
Slant Pole T

Fig. 16

4. CAMERA ADJUSTMENT

(FEATURES)

* CCD Pick Up Device
* Auto Focus, Power Zoom Lens with Macro
* Auto IRIS
* Auto Tracking
* Electronic Viewfinder
* Full record and playback capability with 8mm cassette
* Variable High Speed shutter
* Fade in/out
* On-Screen Displays (OSD)
* Edit Search
* Superimpose
* SP mode and LP mode recording
* Auto lock

4-1. PREPARATIONS

4-1-1. Equipment to be used

1) Oscilloscope
2) Digital voltmeter
3) Power supply
4) PAL vectorscope
5) PAL waveform monitor
6) PAL color monitor
7) Various charts (color bar chart, gray-scale chart, etc)
8) Alignment tape (SE1-2L)

4-1-2. Setting of Switches

1) Power switch ····· Camera mode
2) Focus switch ····· Manual mode
3) Shutter speed switch ····· Normal (1/50 sec.) mode
4) Auto lock switch ····· Manual mode
5) White balance switch ····· Auto mode

4-1-3. Composition of Camera P.C.Boards

1) Process PCB
2) Matrix PCB
3) Digital PCB
4) Drive PCB
5) Function PCB
6) EVF

4-1-4. Distance of Camera and Charts

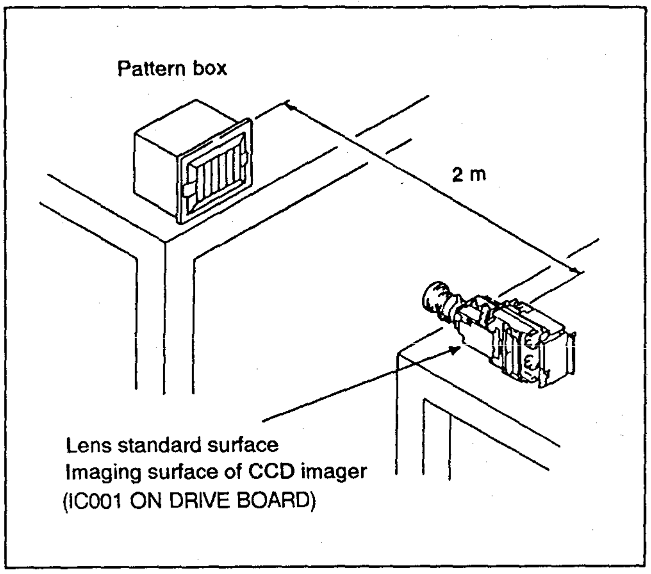


Fig. 1

4-2. CAMERA SYSTEM ADJUSTMENT

4-2-1. Drive V sub Voltage Adjustment

Mode	CAMERA E-E Mode
Signal	–
Equipment	Digital Voltmeter
Test Point	TP001 (Drive Board)
Adjust	VR001 (Drive Board)
Spec	(Imager Voltage) ± 0.05 V DC

Adjustment Method :

1. Vsub specified voltage is indicated by two digits (rear side of CCD) "integer symbol " and "decimal".

※Example :
For C7 display, integer symbol is C=12 volt, and decimal value is 7=0.7 volt, so Vsub voltage is 12+0.7 = 12.7 (V DC).

Note : Table for V sub voltage

Integer Symbol	Integer Value
1	1
.	.
.	.
9	9
A	10
B	11
C	12
D	13
E	14
F	15
G	16
H	17
I	18
J	19
K	20
L	21

2. Adjust the VR001(Vsub voltage control) so that the voltage of TP001 is the specified voltage.

4-2-2. 4 fsc Frequency Adjustment

Mode	CAMERA E-E Mode
Signal	–
Equipment	Digital Voltmeter
Test Point	Pin 20 of IC004 (Drive Board)
Adjust	CT001 (Drive Board)
Spec	2.6 ± 0.1V (DC)

Adjustment Method :

1. Adjust the CT001 so that the voltage of Pin 20 of IC004 2.6 ± 0.1V (DC).

4-2-3. IRIS Level Adjustmnet

Mode	CAMERA E-E Mode
Signal	Gray-scale chart standard picture frame
Equipment	Oscilloscope
Test Point	TP101 (Matrix Board)
Adjust	VR503 (Digital Board)
Spec	180 mVp-p

Adjustment Method :

1. Aim the camera at a gray-scale chart.
2. Connect scope to TP101 and trigger on TP301.
3. Adjust the VR503 (IRIS level control) so that the signal level of TP101 (CCD output level) is 180mVp-p. (Fig. 2)

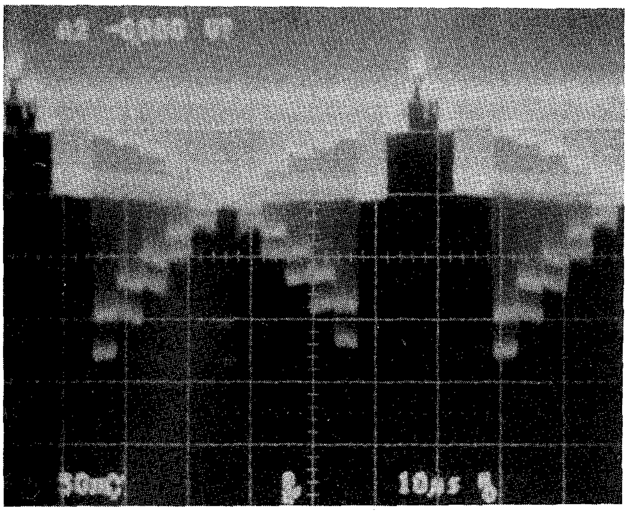


Fig. 2

4-2-4. Y GAIN Adjustment

Mode	CAMERA E-E Mode
Signal	Gray-scale chart standard picture frame
Equipment	Oscilloscope
Test Point	TP302 (Process Board)
Adjust	VR104 (Matrix Board)
Spec	400 mVp-p

Adjustment Method :

1. Aim the camera at a gray-scale chart.
2. Connect scope to TP302 and trigger on TP301.
3. Adjust the VR104(Y Gain) so that the signal level of TP302 (Y Gain) is 400 mVp-p. (Fig. 3)

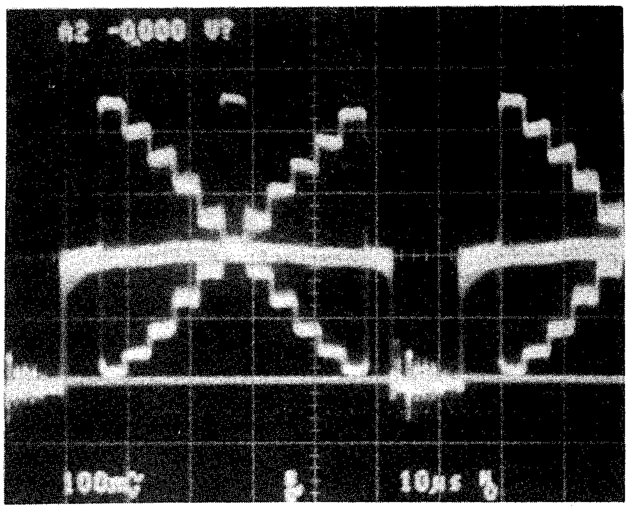


Fig. 3

4-2-5. V. Edge Adjustment

Mode	CAMERA E-E Mode
Signal	Gray-scale chart standard picture frame
Equipment	Oscilloscope
Test Point	TP102, TP103 (Matrix Board)
Adjust	VR103 (Matrix Board)
Spec	"0" level (flat state)

Adjustment Method :

1. Aim the camera at a gray-scale chart and trigger on TP301.
2. Connect the CH1 scope to TP102 (Y1), CH2 scope to TP103 (Y2).

* Scope mode : ADD + INVERT(CH2)

3. Adjust the VR103(Y1 Gain) so that the signal level of oscilloscope is flat state. (Fig. 4)

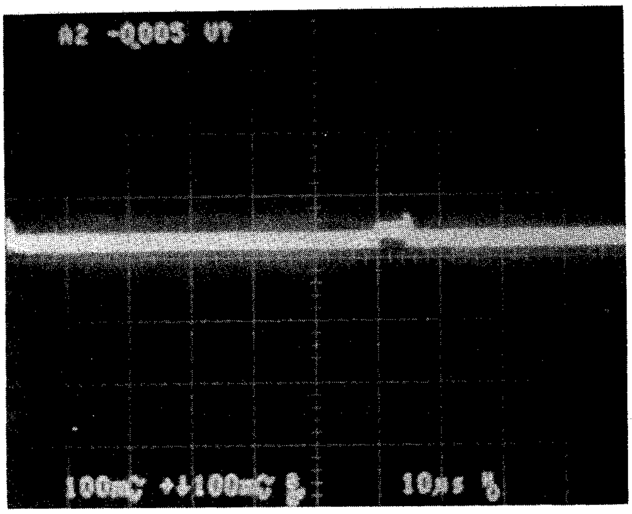


Fig. 4

4-2-6. Setup Level Adjustment

Mode	CAMERA E-E Mode
Signal	All black (cover lens with black cap)
Equipment	PAL Vectorscope
Test Point	CAMCORDER Output
Adjust	VR310 (Process Board)
Spec	30 ± 20 mV

Adjustment Method :

1. Close the camera lens cap.
2. Adjust the VR310 (Setup) so that the level is 30 ± 20 mV. (Fig. 5)

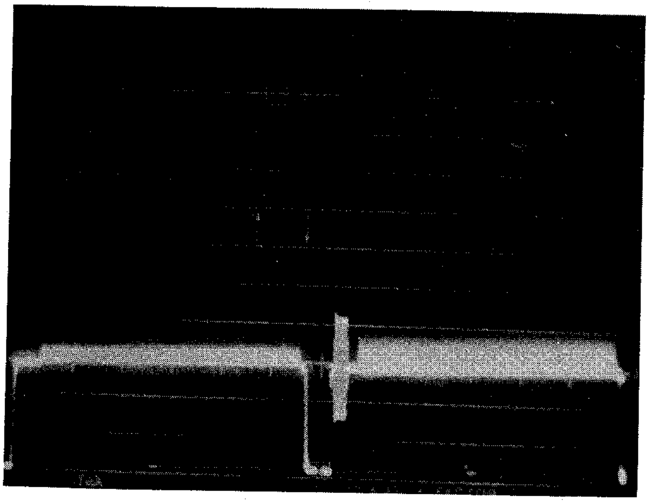


Fig. 5

4-2-7. Y Level Adjustment

Mode	CAMERA E-E Mode
Signal	Gray-scale chart standard picture frame
Equipment	Oscilloscope
Test Point	Pin1 of CN303 (Process Board)
Adjust	VR309 (Process Board)
Spec	500 mVp-p

Adjustment Method :

1. Aim the camera at a gray-scale chart.
2. Connect scope to Pin 1 of CN303 and trigger on TP301.
3. Adjust the VR309(Y level) so that the signal level is 500 mVp-p. (Fig. 6).

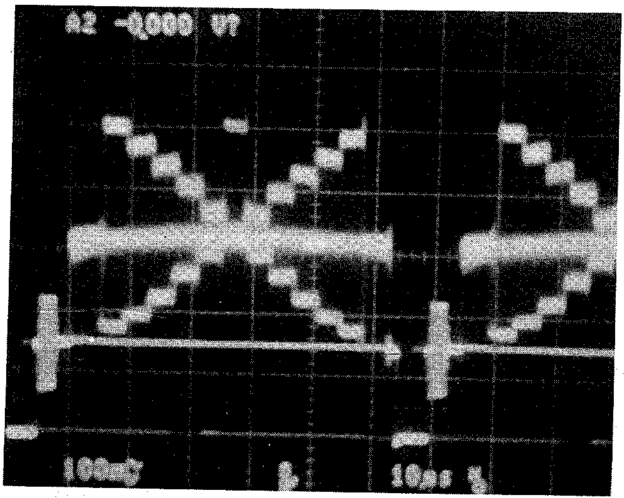


Fig. 6

4-2-8. Hue Adjustment

Mode	CAMERA E-E Mode
Signal	Gray-scale chart standard picture frame
Equipment	PAL Vectorscope
Test Point	CAMCORDER Output
Adjust	VR308 (Process Board)
Spec	90°

Adjustment Method :

1. Set the choice mode (+ V, PAL) of the vectorscope unit to "PAL".
2. Adjust the VR308 (Hue Control) so that the burst phase difference is 90°. (Fig. 7)
3. Set the choice mode(+V, PAL) of the vectorscope unit to "+V". (Fig. 8)

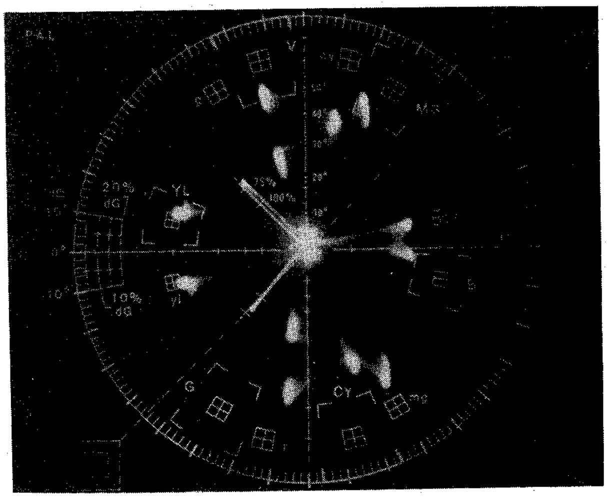


Fig. 7

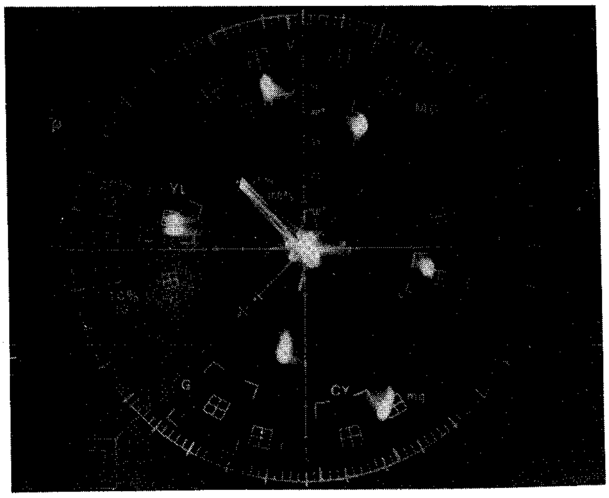


Fig. 8

4-2-9. Burst Level Adjustment

Mode	CAMERA E-E Mode
Signal	All black (cover lens with black cap)
Equipment	Oscilloscope
Test Point	CAMCORDER Output
Adjust	VR307 (Process Board)
Spec	300 ± 30 mVp-p

Adjustment Method :

1. Adjust the VR307(Burst level) so that the burst level is 300 ± 30 mVp-p.

4-2-10. Chroma Balance Adjustment

Mode	CAMERA E-E Mode
Signal	Color bar chart standard picture frame
Equipment	Oscilloscope
Test Point	TP104 (Matrix Board)
Adjust	VR101, VR102 (Matrix Board)
Spec	YE level = R level (Stable waveform)

Adjustment Method :

1. Aim the camera at a color bar chart.
2. Connect scope to TP104 and trigger on TP301.
3. Adjust the VR101(C1 gain) and VR102(C2 gain) so that the waveform is as shown in Fig. 9.
   (YE level = R level)

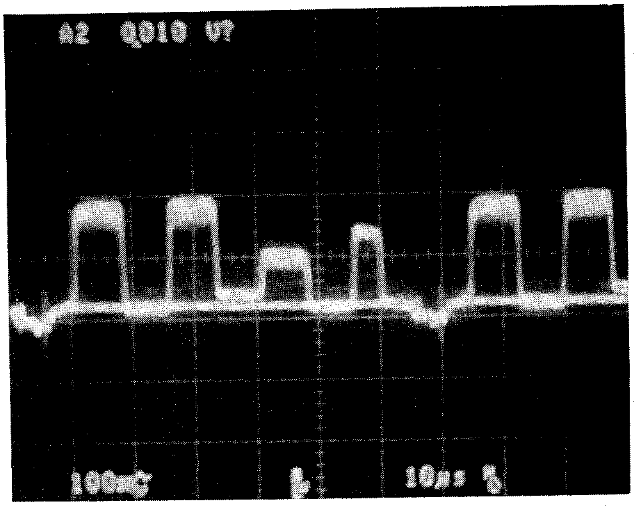


Fig. 9

4-2-11. R-Gain, B-Gain Adjustment

Mode	CAMERA E-E Mode
Signal	Color bar chart standard picture frame
Equipment	PAL Vectorscope
Test Point	CAMCORDER Output
Adjust	VR301, VR302 (Process Board)
Spec	Center on Screen

Adjustment Method :

1. Aim the camera at a color bar chart.
2. Adjust the VR301(R gain) and VR302(B gain) so that the white vector moves to the center on screen.

4-2-12. R-Y Gain, B-Y Gain Adjustment

Mode	CAMERA E-E Mode
Signal	Color bar chart standard picture frame
Equipment	Waveform Monitor
Test Point	CAMCORDER Output
Adjust	VR303, VR304 (Process Board)
Spec	R : 450 mVp-p, B : 350 mVp-p

Adjustment Method :

1. Aim the camera at a color bar chart.
2. Adjust the VR303(R-Y gain) and VR304 (B-Y gain) so that R, B vectors are as shown in Fig. 10.
   (R vector : 450 mVp-p, B vector : 350 mVp-p)

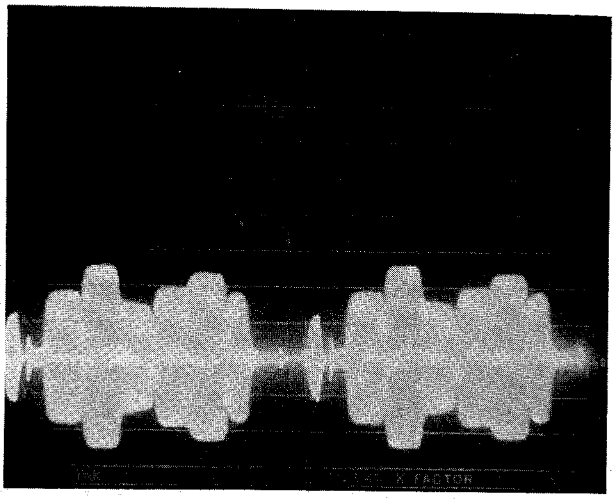


Fig. 10

4-2-13. R-Y Hue, B-Y Hue Adjustment

Mode	CAMERA E-E Mode
Signal	Color bar chart standard picture frame
Equipment	PAL Vectorscope
Test Point	CAMCORDER Output
Adjust	VR305, VR306 (Process Board)
Spec	R : 105°, YE : 165°, B : 350°

Adjustment Method :

1. Aim the camera at a color bar chart.
2. Adjust the VR305(R-Y Hue) and VR306 (B-Y Hue) so that R,YE vectors are as shown in Fig. 11.
   (R vector : 105°, YE vector : 165°, B vector : 350°)

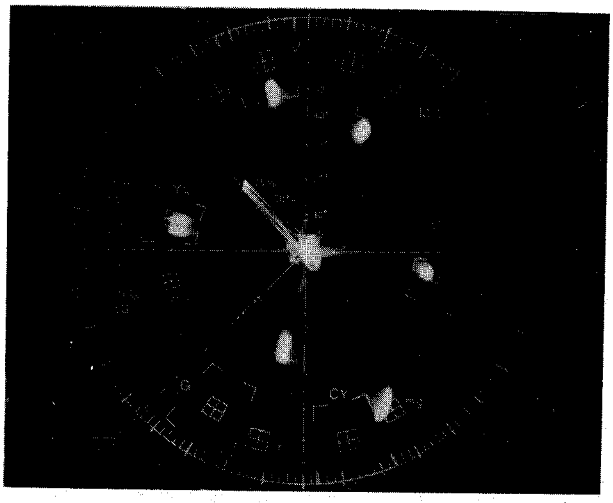


Fig. 11

4-2-14. R-MIX, B-MIX Adjustment

Mode	CAMERA E-E Mode
Signal	Color bar chart standard picture frame
Equipment	Oscilloscope
Test Point	TP401, TP402 (Process Board)
Adjust	VR401, VR402 (Process Board)
Spec	Cyan level : 0 (zero) YE level = Mg level

Adjustment Method :

1. Aim the camera at a color bar chart.
2. Connect oscilloscope to TP401(B-MIX) and adjust the VR401(B MIX LEVEL) so that the cyan level is zero. (Fig. 12).
3. Connect oscilloscope to TP402 (R-MIX) and adjust the VR402(R MIX LEVEL) so that the YE level is equal to Mg level as shown in Fig. 13.

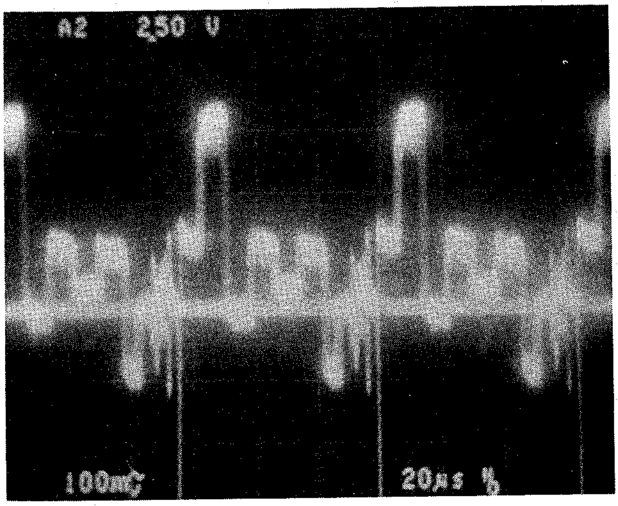


Fig. 12

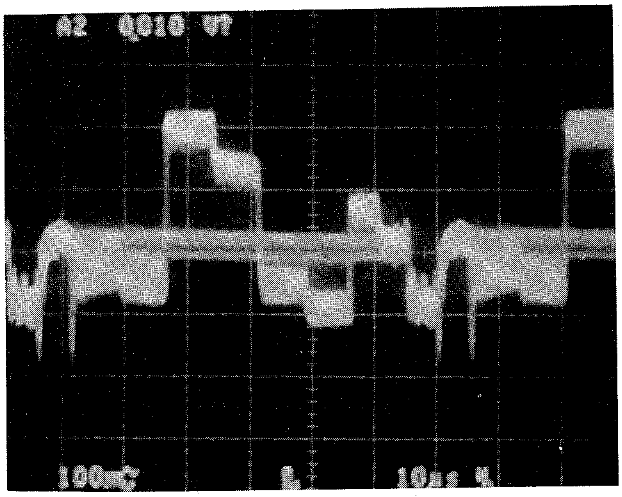


Fig. 13

4-2-15. Auto White Balance Adjustment

※ Auto White Balance Adjustment (I) 〈 When VR407 and VR408 exist 〉

Mode	CAMERA E-E Mode
Signal	–
Equipment	Digital Voltmeter
Test Point	Pin 11 of IC404 (Process Board) Pin 8 of IC404 (Process Board)
Adjust	VR407, VR408 (Process Board)
Spec	3.2 ± 0.05 V (DC) 2.9 ± 0.05 V (DC)

Adjustment Method :

1. Adjust the VR407 so that the voltage of pin 11 of IC404 3.2 ± 0.05 V (DC).
2. Adjust the VR408 so that the voltage of pin 8 of IC404 2.9 ± 0.05 V (DC).

※ Auto White Balance Adjustment (II) 〈 When VR407 and VR408 don't exist 〉

Mode	CAMERA E-E Mode
Signal	Color bar chart standard picture frame
Equipment	PAL Vectorscope
Test Point	CAMCORDER output
Adjust	VR301, VR302 (Process Board)
Spec	Center + 10% (Vectorscope)

Adjustment Method :

1. Aim the camera at a color bar chart (3200° K).
2. Adjust the VR301(R Gain) and VR302(B Gain) so that the white level moves to the center on screen.
3. Aim the camera at a color bar chart (5100° K) and adjust the VR301(R Gain) and VR302 (B Gain) so that the white level moves to the center on screen.
4. Repeat so that the white level moves to the center on screen.

Note :
- When VR407 and VR408 exist, to begin with perform item I and then adjust item II.
- When VR407 and VR408 don't exist, perform only item II.

4-2-16. Manual White Balance

Mode	CAMERA E-E Mode
Signal	Color bar chart standard picture frame
Equipment	PAL Vectorscope
Test Point	CAMCORDER Output
Adjust	VR403, VR404, VR405, VR406 (Process Board)
Spec	Center on screen

Adjustment Method :

1. Aim the camera at a color bar chart (3200° K, 5100° K).
2. Set the white balance switch to the "INDOOR"mode.
3. Adjust the VR403(INDOOR B-CONT) and VR405 (INDOOR R-CONT) so that the white level moves to the center on screen(3200° K).
4. Set the white balance switch to the "OUTDOOR" mode.
5. Adjust the VR404(OUTDOOR B-CONT) and VR406 (OUT DOOR R-CONT) so that the white level moves to the center on screen(5100° K).

4-2-17. Chroma Pedestal Adjustment

Mode	CAMERA E-E Mode
Signal	Gray-scale chart standard picture frame
Equipment	PAL Vectorscope, Monitor
Test Point	CAMCORDER Output
Adjust	VR311 (Process Board)
Spec	Black memory monitor screen

Adjustment Method :

1. Aim the camera at a gray-scale chart.
2. "OSD" switch on and set the superimpose mode (MEMORY switch on).
3. Set the COLOR/MODE switch to the "BLK" mode.
4. Adjust the VR311(Chroma Pedestal) so that black level moves to the center on screen.

4-2-18. Clock Frequency Adjustment

Mode	CAMERA E-E Mode
Signal	–
Equipment	Frequency Counter
Test Point	Pin 19 of IC601 (Function Board)
Adjust	CT601 (Function Board)
Spec	32.768 KHz ± 1 Hz

Adjustment Method :

1. Adjust the CT601(Clock Frequency) so that the clock frequency is 32.768 KHz ± 1 Hz.

4-2-19. Back Focus Adjustment

Adjustment Method :

1. Set up condition as shown in Fig. 14.
2. Set the auto focus switch on camera operation unit to the "MANUAL" position.
3. Orient camera block to have the center of the siemens star on the monitor TV screen coincide with the monitor screen center.
4. Set zoom lever at extreme WIDE position.
5. Set the lens focusing mark at the center of "3".
6. Loosen "Back Focus Setscrew" with (+) driver.
7. Put the eccentric driver into the eccentric driver hole.
8. By turning the eccentric driver while watching the monitor screen, attain the highest definition of a wedge at the siemens star center on the screen.
9. While holding the eccentric driver retighten "Back Focus setscrew".
10. With zoom lever fixed at its WIDE end, turn focus ring and set it at a position that provides the highest definition image of the wedge. Check to assure the focusing mark position thus, attained to be within the following range.

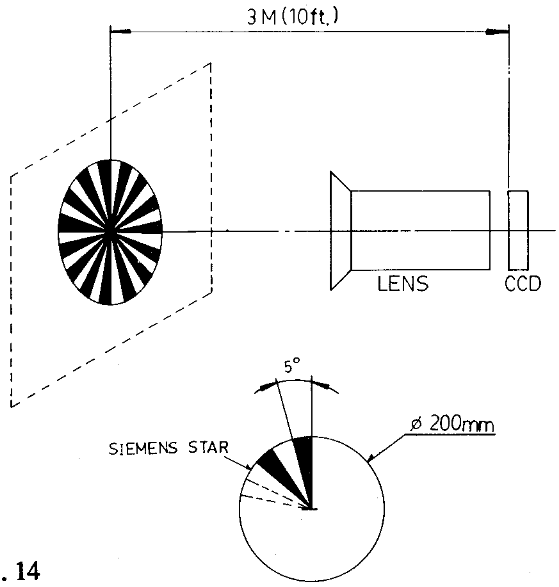


Fig. 14

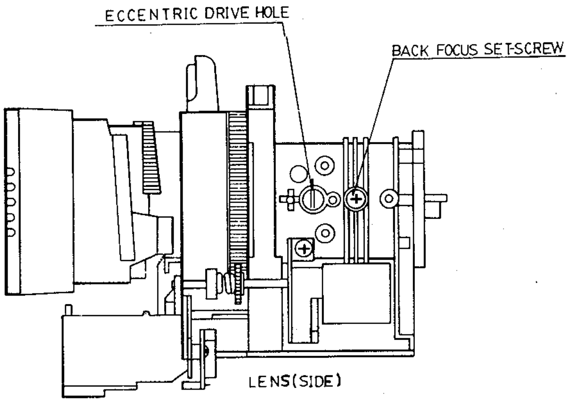
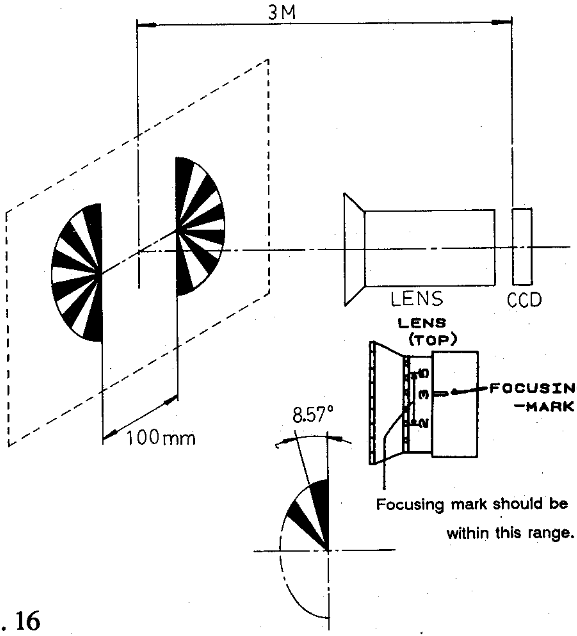


Fig. 15

4-2-20. Auto Focus Adjustment

Adjustment Method :

1. Set up condition as shown in Fig. 16.
2. Set the auto focus switch to the "MANUAL" position.
3. Orient camera block to have the center of the two half siemens star on the monitor TV screen coincide with the monitor screen center.
4. Set zoom lever at extreme TELE position.
5. By turning focus ring confirm the position (1) which attain the highest defintion of a wedge at the two siemens half star.
6. Rotate the focus ring to 1.1 m and release. Confirm the position (2) at which focus ring stop.
7. Rotate the focus ring to and release. Confirm the position (3) at which focus ring stop.
8. Put the hexagonal wrench into "AF adjustment hexagonal hole".
9. Rotate the hexagonal wrench until the center between the position 2 and 3 coincide with the position 1.
10. Lock the "AF adjustment hexagonal hole "with "lock paint".



Focusing mark should be within this range.

Fig. 16

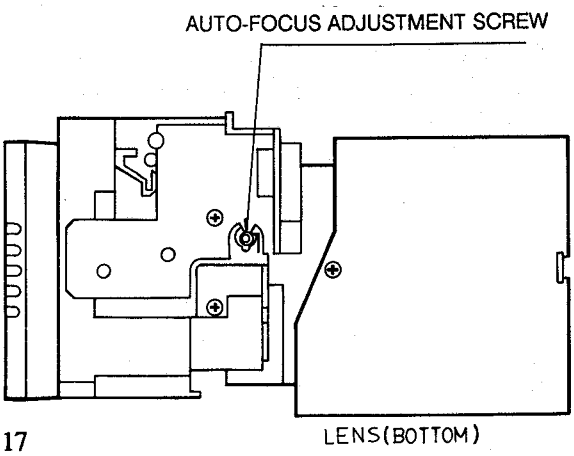


Fig. 17

4-3. EVF (ELECTRONIC VIEWFINDER) SYSTEM ADJUSTMENT

4-3-1. Brightness Adjustment
【EVF Adjustment (I)】

Mode	VTR Playback
Signal	Lion pattern (Alignment tape SE1-2L)
Equipment	–
Test Point	ViewFinder
Adjust	VR701 R4 (EVF Board)
Spec	Natural Gradation (4 stairs contrast pattern in the pattern)

Adjustment Method :

1. Load the instrument with an alignment tape and playback the lion pattern signal. (Alignment tape SE1-2L)
2. Adjust brightness control (VR701 R4) so that four stairs distinguished between 3rd & 4th stairs.

4-3-2. Vertical Size Adjustment
【EVF Adjustment (II)】

Mode	VTR Playback
Signal	Lion pattern (Alignment tape SE1-2L)
Equipment	–
Test Point	ViewFinder
Adjust	VR701 R1 (EVF Board)
Spec	Perfect circle in pattern

Adjustment Method :

1. Load the instrument with an alignment tape and playbcak the lion pattern signal. (Alignment tape SE1-2L)
2. Adjust the V. size control (VR701 R1) so that the vertical size is correct (=center circle is perfect circle).

4-3-3. Focus Adjustment
【EVF Adjustment (III)】

Mode	VTR Playback
Signal	Lion pattern (Alignment tape SE1-2L)
Equipment	–
Test Point	ViewFinder
Adjust	VR702 (EVF Board)
Spec	Best resolution

Adjustment Method :

1. Load the instrument with an alignment tape and playback the lion pattern signal. (Alignment tape SE1-2L)
2. Adjust the FOCUS-CONTROL (VR702) for best resolution in the viewfinder.

4-3-4. H. Frequency Adjustment (OPTION)
【EVF Adjustment (IV)】

Mode	VTR Playback
Signal	Lion pattern (Alignment tape SE1-2L)
Equipment	–
Test Point	Viewfinder
Adjust	VR701 R2 (EVF Board)
Spec	In power ON/OFF, Picture is stable

Adjustment Method :

1. Load the instrument with an alignment tape and playback the lion pattern signal. (Alignment tape SE1-2)
2. Adjust Horizontal frequency control (VR701 R2) so that Picture is stable.

4-3-5. Contrast Adjustment (OPTION)
【EVF Adjustment (V)】

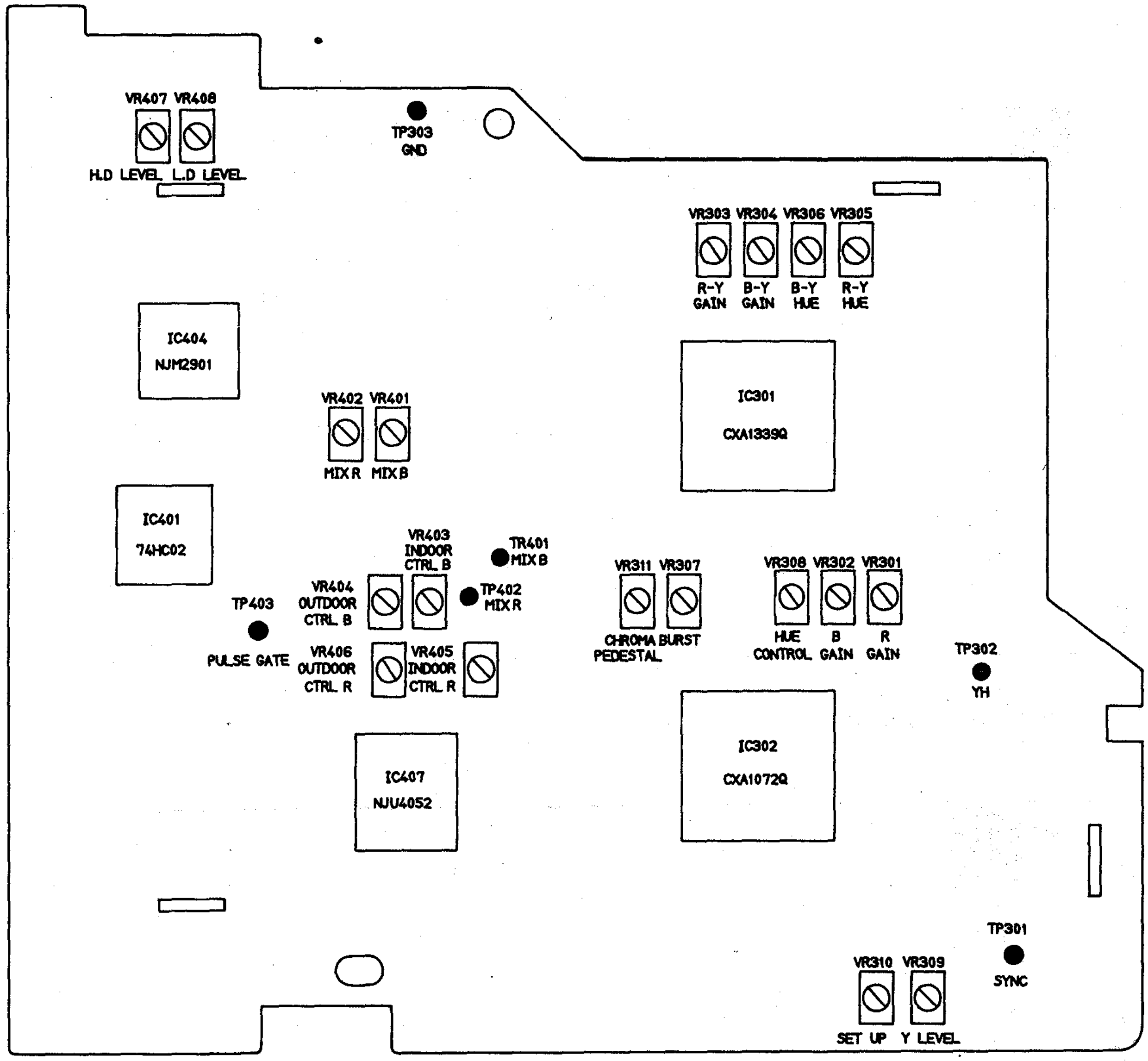
Mode	VTR Playback
Signal	Gray-scale chart standard picture frame
Equipment	–
Test Point	ViewFinder
Adjust	VR701 R3 (EVF Board)
Spec	Seven stair waves to distinguished

Adjustment Method :

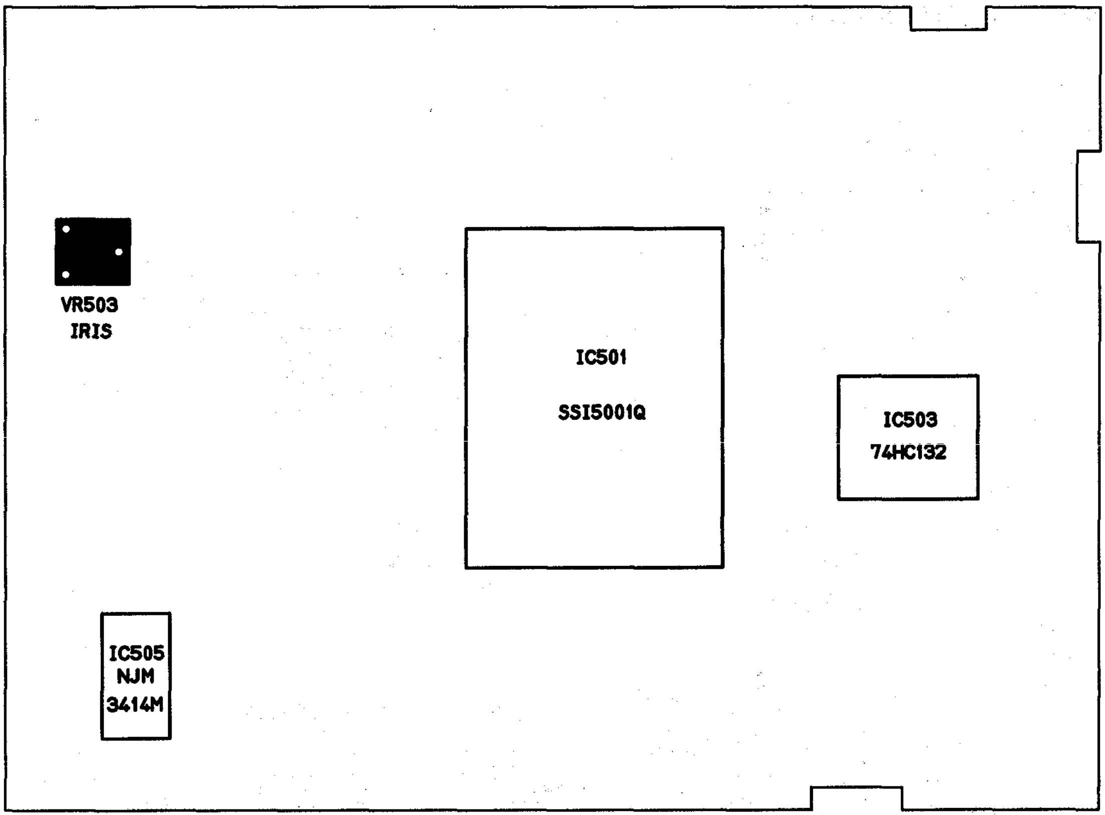
1. Record the "Gray-scale pattern" signal to video tape and then playback it.
2. Adjust CONTRAST control (VR701 R3) so that seven stairs of "Gray scale" distinguished respectively.

4-4. LOCATION OF TEST POINTS AND CONTROLS

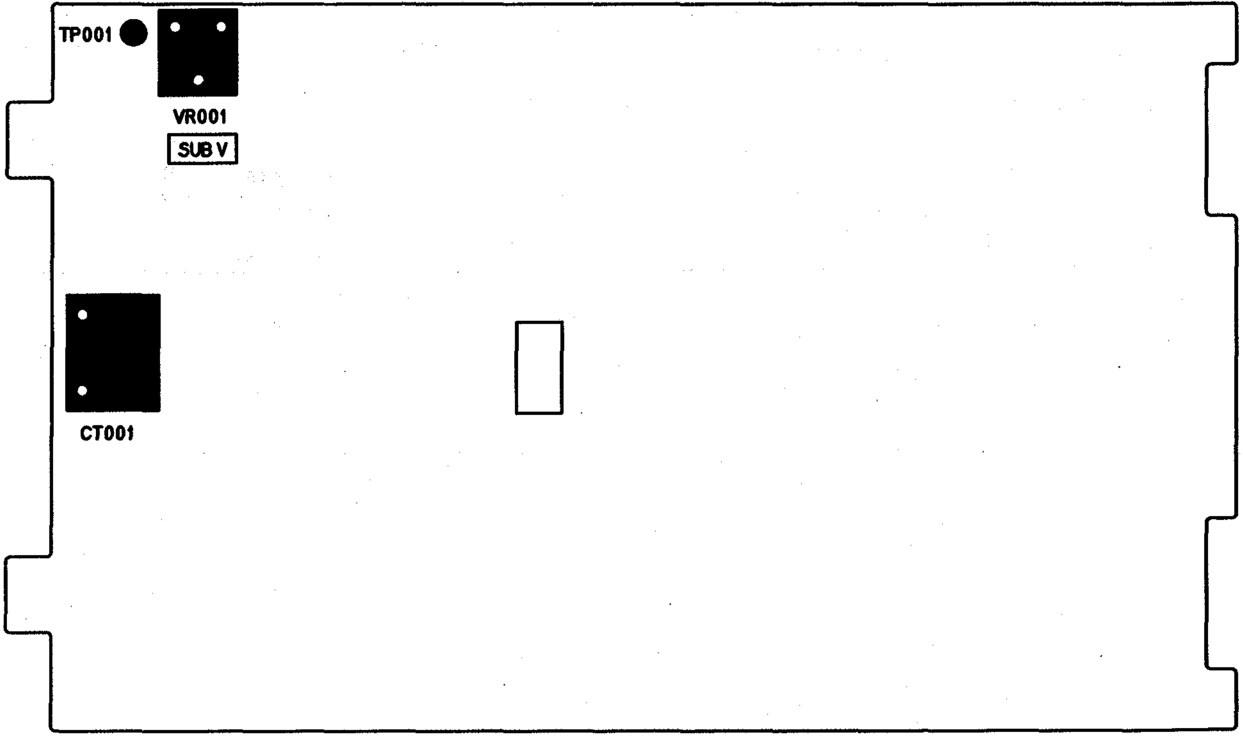
4-4-1. PROCESS (COMPONENT SIDE)


VR407 VR408
H.D LEVEL L.D LEVEL
TP303
GND
VR303 VR304 VR306 VR305
R-Y GAIN
B-Y GAIN
B-Y HUE
R-Y HUE
IC404
NJM2901
VR402 VR401
MIX R MIX B
IC301
CXA1339Q
IC401
74HC02
VR403
INDOOR CTRL B
TR401
MIX B
VR404
OUTDOOR CTRL B
TP402
MIX R
TP403
PULSE GATE
VR406
OUTDOOR CTRL R
VR405
INDOOR CTRL R
VR311 VR307
CHROMA PEDESTAL
BURST
VR308 VR302 VR301
HUE CONTROL
B GAIN
R GAIN
TP302
YH
IC302
CXA1072Q
IC407
NJU4052
TP301
SYNC
VR310 VR309
SET UP
Y LEVEL

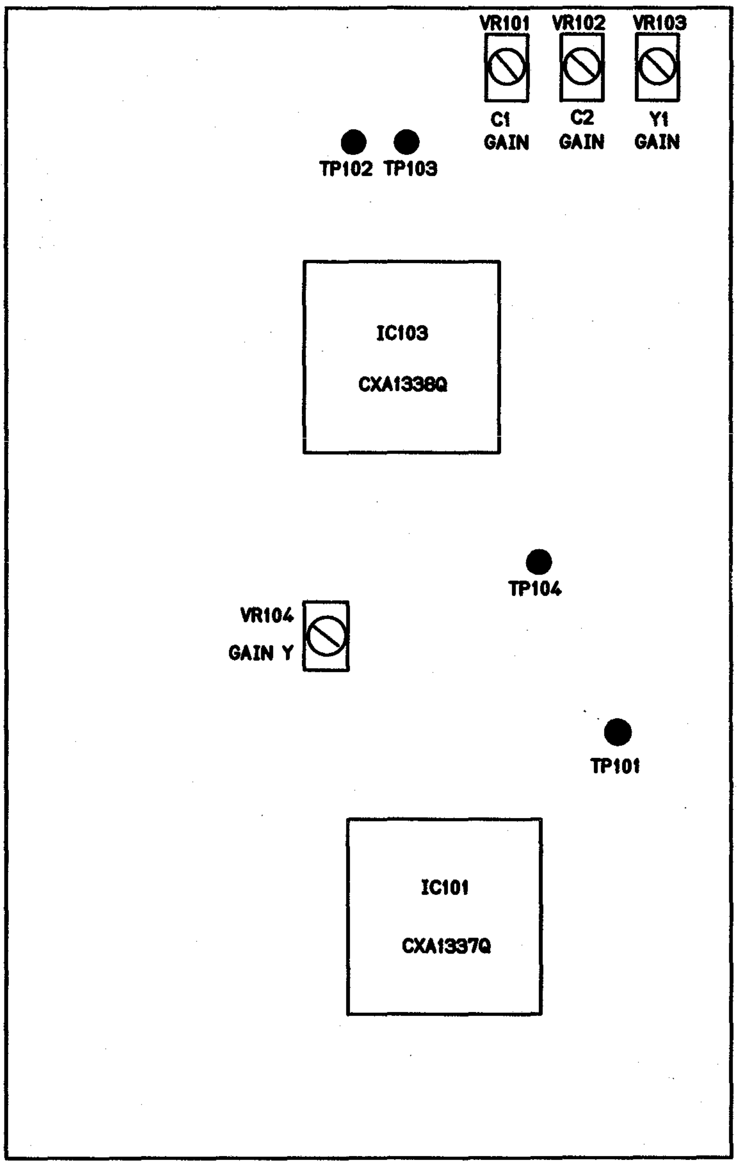
4-4-2. DIGITAL (COMPONENT SIDE)


VR503
IRIS
IC501
SSI5001Q
IC503
74HC132
IC505
NJM
3414M

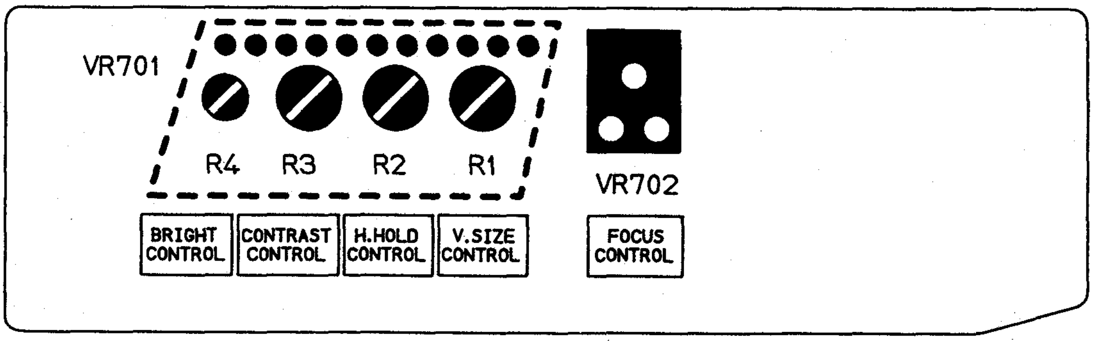
4-4-3. DRIVE (COMPONENT SIDE)


TP001
VR001
SUB V
CT001

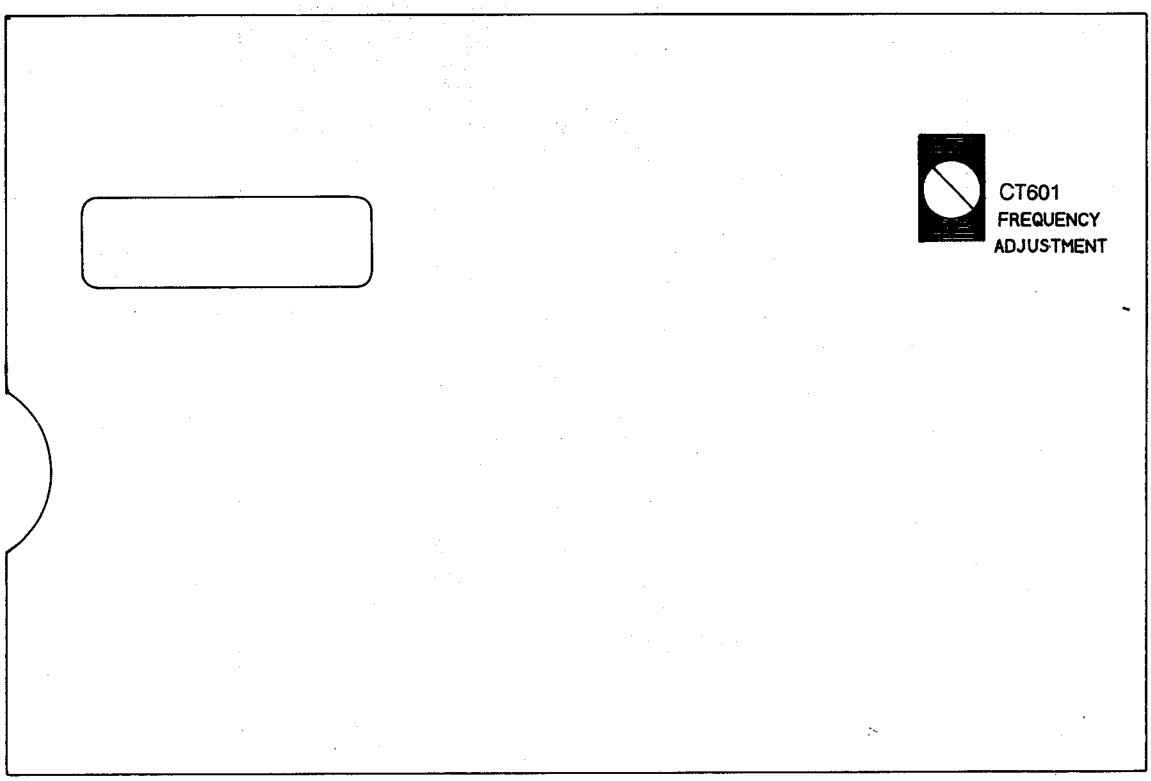
4-4-4. MATRIX (COMPONENT SIDE)


VR101
VR102
VR103
C1 GAIN
C2 GAIN
Y1 GAIN
TP102
TP103
IC103
CXA1338Q
TP104
VR104
GAIN Y
TP101
IC101
CXA1337Q

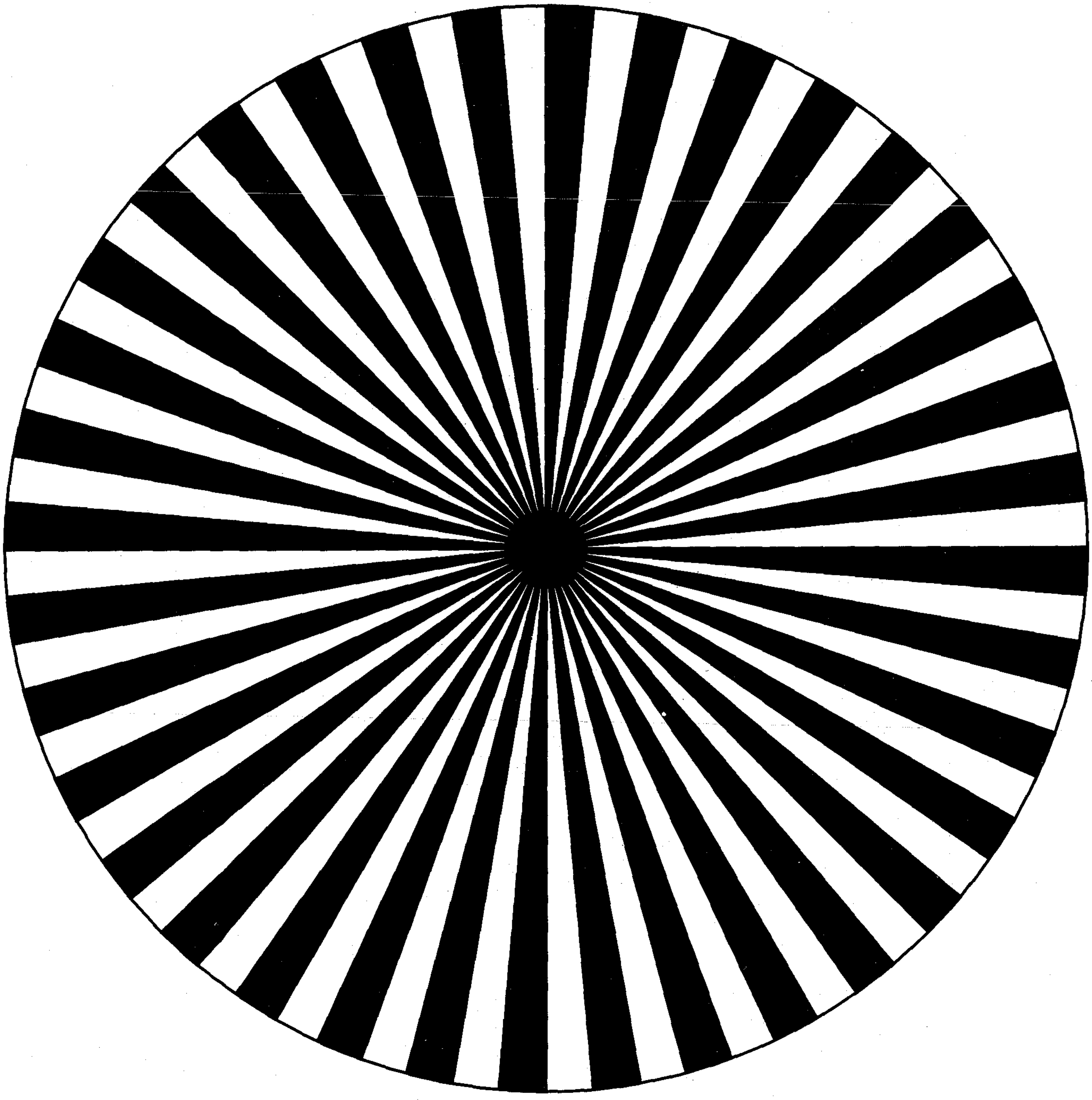
4-4-5. EVF (COMPONENT SIDE)


VR701
R4
R3
R2
R1
VR702
BRIGHT CONTROL
CONTRAST CONTROL
H.HOLD CONTROL
V.SIZE CONTROL
FOCUS CONTROL

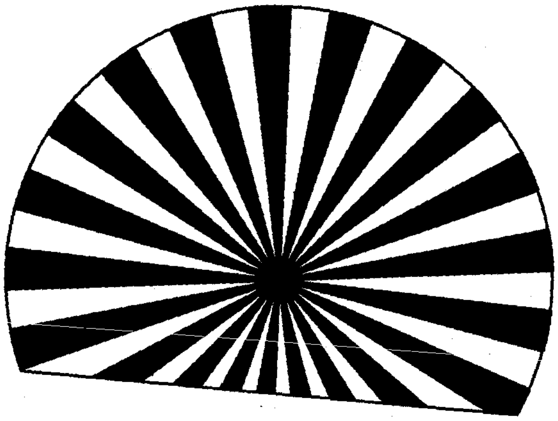
4-4-6. FUNCTION (COMPONENT SIDE)

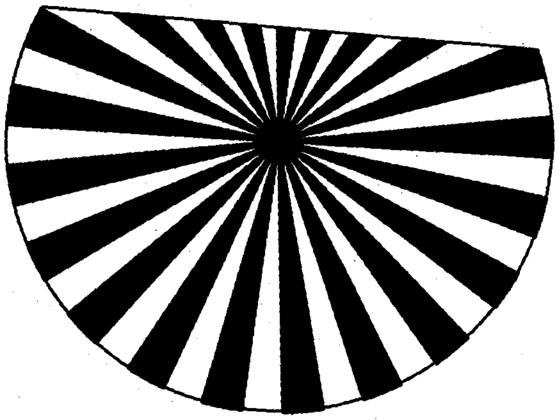

CT601
FREQUENCY
ADJUSTMENT

(Back Focus)



(Auto Focus)





5. VTR ADJUSTMENT

5-1. PREPARATIONS

Use the following measuring instruments for adjustment of the VTR block.

5-1-1. Equipment to be used

1) Monitor TV
2) Dual trace oscilloscope of over 10MHz band, incorporates delay mode. (Use 10 : 1 probe unless otherwise specified)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuator
10) Regulated power supply
11) Alignment tapes
    Video frequency characteristics adjustment (SEM-2L)
    Operation check (SE2-2L : LP), (SE2-2 : SP)

5-1-2. Composition of VTR P.C.Boards

1) Main PCB (System Control/Servo, Pre-Amp, Audio)
2) Video PCB
3) Function PCB
4) DC/DC Converter PCB
5) Deck Joint PCB
6) Start/Stop PCB
7) MIC PCB

5-1-3. Connection of equipment

Unless otherwise specified, adjustment is made with the measuring instrument connected as shown in the diagram below.

- Camera/video power switch ..... Video position

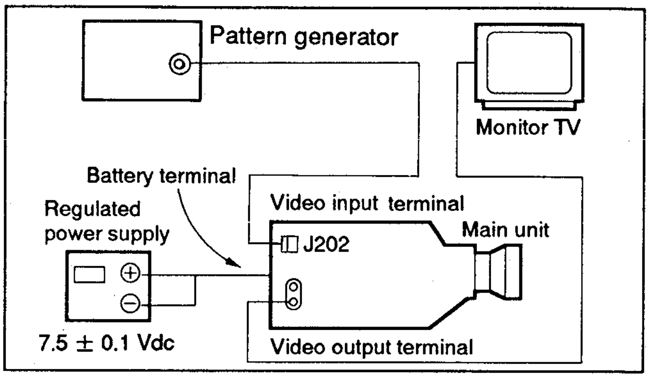

Pattern generator
Monitor TV
Battery terminal
Regulated power supply
Video input terminal
Main unit
J202
7.5 ± 0.1 Vdc
Video output terminal

Fig. 1

5-1-4. Set-up during adjustment

Since the video output signal obtained from the pattern generator is used as the adjusting signal for the VTR block, it is necessary that this video output signal be within the required specifications. Connect an oscilloscope to J202 (video input terminal) on the video Y/C board and make sure that the amplitude of the video SYNC signal is approximately 0.3V, that the video block amplitude is approximately 0.7V, that the burst signal amplitude is approximately 0.3V with flat characteristics, and the signal level ratio between the burst signal and "Red" signal is 0.30 : 0.66. The video signal (color bars) used for VTR block electrical adjustment are shown in Fig. 2.

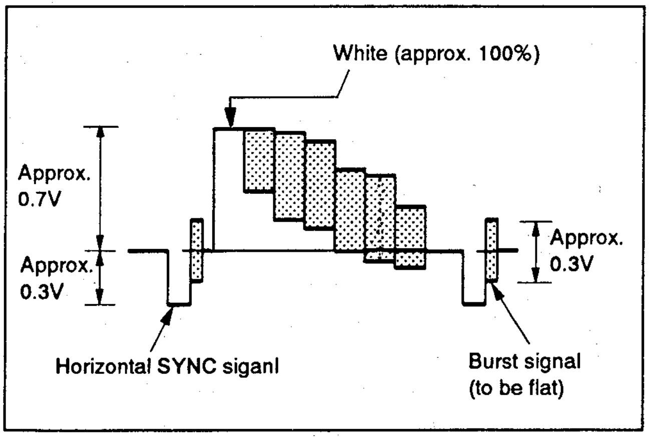
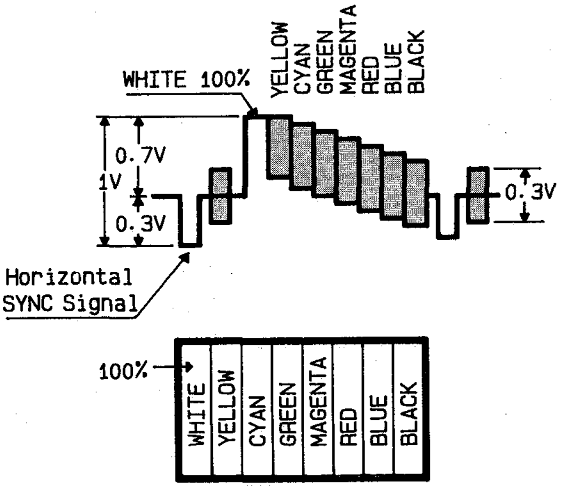

White (approx. 100%)
Approx. 0.7V
Approx. 0.3V
Approx. 0.3V
Horizontal SYNC siganl
Burst signal (to be flat)

Fig. 2 Color bar signal of pattern generator

5-1-5. Alignment tapes

Tape	Content	Use
Tracking (SE4-2L)	1. Recording area : PCM - video 2. Recording content : CH2 : 1 MHz linearity adjustment signal (CH1 : 9 MHz)	Drum linearity adjustment
Video Frequency Response (SEM-2L)	1. Recording area : Video 2. Recording content : RF sweep 0 to 10 MHz 3. Maker 1, 3.58, 5.5 and 7 MHz	Frequency response adjustment
Operation Check SP mode (SE2-2) LP mode (SE2-2L) **Note :** PCM area is not included in SE2-2L	1. Recording area : Video 2. Recording content : ■ Video area • Video signals Color bars 4 minutes Monoscope 4 minutes (Color bars)  WHITE 100% YELLOW CYAN GREEN MAGENTA RED BLUE BLACK 0.7V 1V 0.3V 0.3V Horizontal SYNC Signal 100% WHITE YELLOW CYAN GREEN MAGENTA RED BLUE BLACK • Audio signals (AFM) 400 Hz 60% modulation ■ PCM area • Audio signals (PCM) 1 KHz 4 minutes color bar 20 Hz 2 sec 400 Hz 4 sec → Iterative 14 KHz 2 sec Monoscope	Operation check

5-1-6. Level and Impedance

Audio input : Pin jack
Input level : -7.5 dBs (0 dBs= 0.775 Vrms)
Input impedance : More than 47 KΩ

Audio output : Pin jack
Specified output : -7.5 dBs
Output impedance : More than 2.2 KΩ

5-2. POWER ADJUSTMENT

5-2-1. PWM Frequency Adjustment (DC/DC Converter Board)

Mode	CAMERA
Signal	–
Equipment	Frequency Counter
Test Point	IC901 pin1
Adjust	VR901
Spec	447 ± 8 KHz

Adjustment Method :

1. Set the DC power supply at 7.5V and connect CN901 on power board.
2. Adjust VR901 so that the specified value appears on the Frequency Counter.

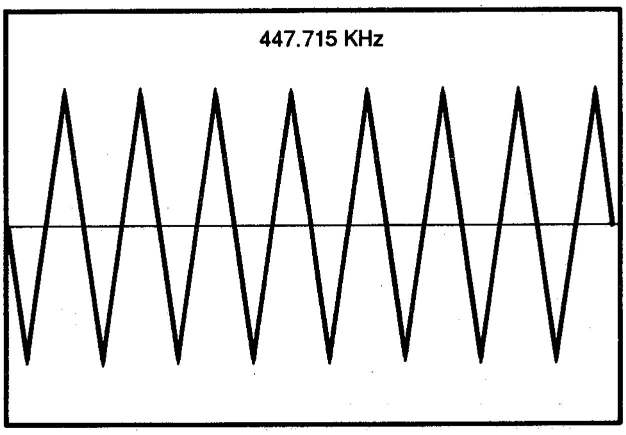


Fig. 3 PWM Frequency Adjustment

5-2-2. DC 5V Adjustment (DC/DC Converter Board)

Mode	CAMERA
Signal	–
Equipment	Digital Voltmeter
Test Point	W902 pin 4
Adjust	VR902
Spec	DC 5.1 ± 0.05 V

Adjustment Method :

1. Set the DC power supply at 7.5V and connect CN901 on power board.
2. Adjust VR902 so that the specified value appears on the DC Voltmeter.

5-2-3. DC 15V Adjustment (DC/DC Converter Board)

Mode	CAMERA
Signal	–
Equipment	Digital Voltmeter
Test Point	W902 pin 2
Adjust	VR903
Spec	DC 15 ± 0.5 V

Adjustment Method :

1. Set the DC power supply at 7.5V and connect CN901 on power board.
2. Adjust VR903 so that the specified value appears on the DC Voltmeter.

5-3. SYSTEM CONTROL/SERVO ADJUSTMENT

5-3-1. Battery Down Voltage Adjustment (Main Board)

Mode	CAMERA Recording
Signal	Arbitrary
Equipment	Confirmation on monitor screen
Test Point	
Adjust	RV551
Spec	– 0 : 02 : 88 ~ – 0 : 02 : 90

Connections :

1. Connect a regulated power supply and digital voltmeter as shown in Fig. 4.
2. Connect pin 1 (TEST B) and pin 2 (GND) of CN508 on the VTR function board with a jumper wire. (See Fig. 5)

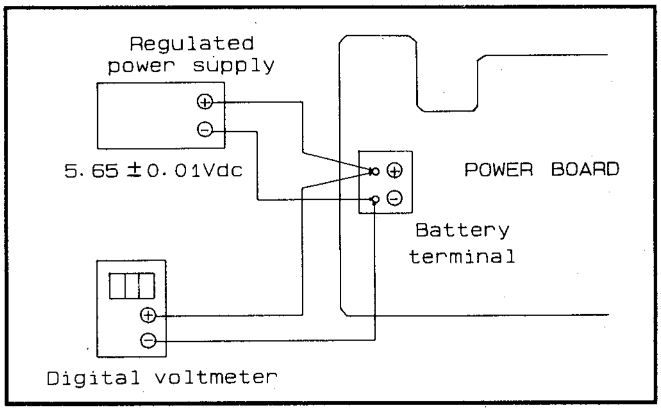

Regulated power supply
⊕
⊖
5.65 ±0.01Vdc
⊕
⊖
POWER BOARD
Battery terminal
⊕
⊖
Digital voltmeter

Fig. 4

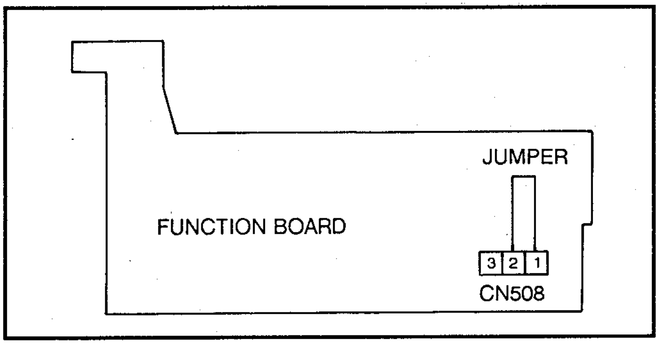

JUMPER
FUNCTION BOARD
3
2
1
CN508

Fig. 5

Adjustment Method :

1. Press data screen key on the Function Board to display the counter on the monitor.
2. Confirm that the indication on the digital voltmeter is 5.65 ± 0.01 Vdc.
3. Rotate RV551 so that the specified value appears on the monitor.

5-3-2. Switching Point Adjustment (Main Board)

Mode	Playback
Signal	Alignment Tape for Operation Check (SE2-2)
Equipment	Oscilloscope
Test Point	Video output terminal, TP503
Adjust	RV501
Spec	6.5 ± 0.5 H

Connections :

1. Connect pin 3 (TEST A) and pin 2 (GND) of CN508 on the VTR function board with a jumper wire. (See Fig. 6)

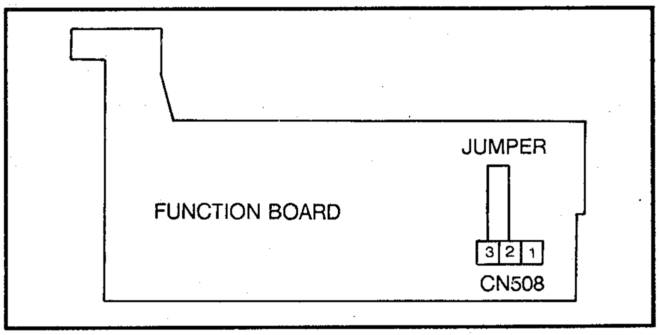

JUMPER
FUNCTION BOARD
3
2
1
CN508

Fig. 6

Adjustment Method :

1. Adjust RV501 so as to meet the specified value with the SP alignment tape playback.

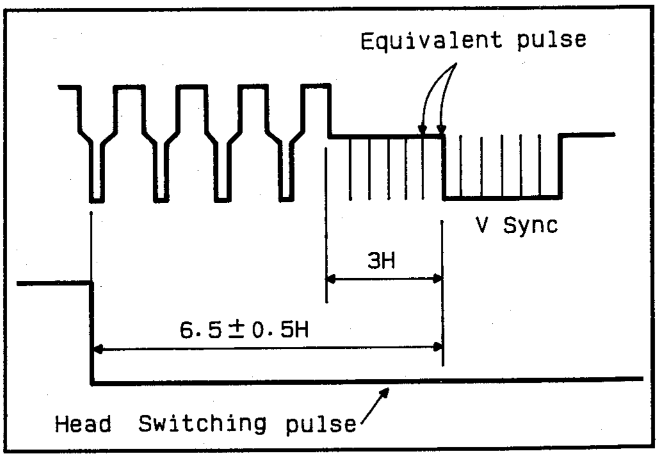

Equivalent pulse
V Sync
3H
6.5±0.5H
Head Switching pulse

Fig. 7 Switching Point Adjustment

5-3-3. Capstan FG Adjustment (Main Board)

Mode	Playback (LP)
Signal	Alignment Tape for Operation Check (SE2-2L)
Equipment	Oscilloscope
Test Point	TP501
Adjust	RV502
Spec	Minimize the Vp-p

Adjustment Method :

1. Adjust RV502 so as to minimize the width of voltage with LP PB mode.

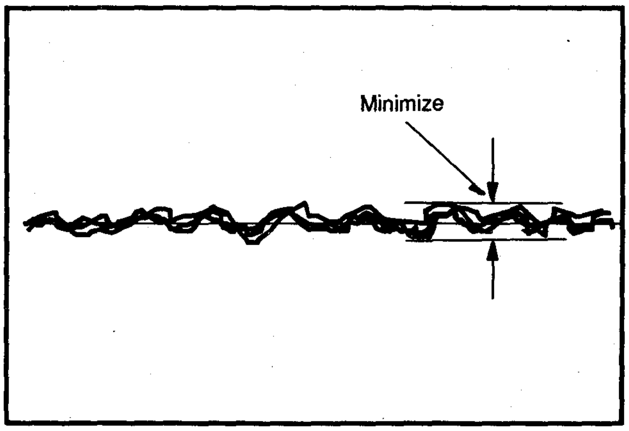


Fig. 8 Capstan FG Adjustment

5-3-4. PWM Frequency Adjustment (Main Board)

Mode	Stop
Signal	–
Equipment	Frequency Counter
Test Point	TP502
Adjust	RV621
Spec	457 ±1 KHz

Adjustment Method :

1. Adjust to 457 ± 1 KHz with RV621.

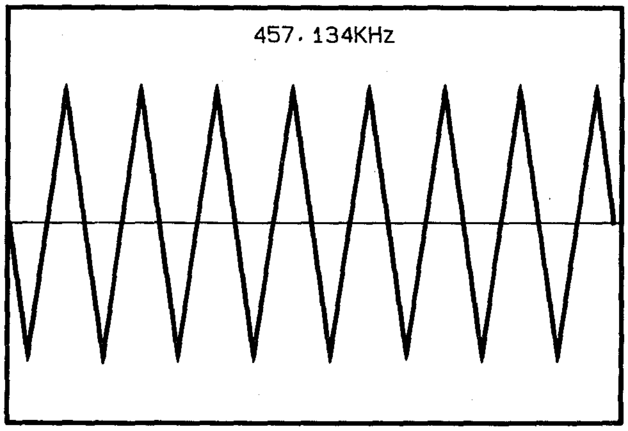


Fig. 9 PWM Frequency Adjustment

5-4. AUDIO ADJUSTMENT

- Preform adjustment with the color bar signal used as the video input signal.

[Connection of audio measuring instruments]
In addition to the video system measuring instruments, connect the audio system measuring instruments as shown in the figure below, and set the power switch to the video position for adjustment.

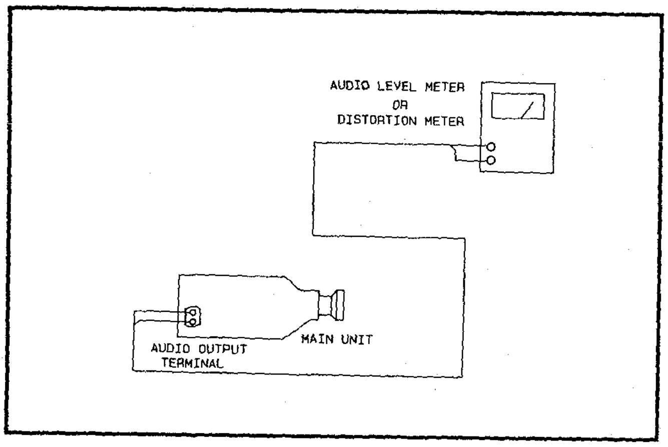


Fig. 10

5-4-1. Carrier Frequency Adjustment (Main Board)

Mode	Recording
Signal	Non-signal
Equipment	Frequency Counter
Test Point	TP431
Adjust	VR432
Spec	1.5 ± 0.002 MHz

Adjustment Method :

1. Connect the audio in terminal to ground.
2. Adjust to 1.50 ± 0.002 MHz with VR432.

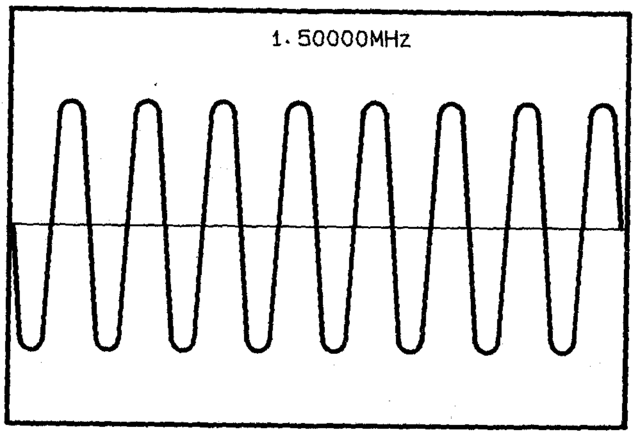


Fig. 11 Carrier Frequency Adjustment

5-4-2. Deviation Adjustment (Main Board)

Mode	Playback
Signal	Alignment Tape for Operation Check (SE2-2)
Equipment	Audio Level Meter
Test Point	Audio output terminal
Adjust	VR431
Spec	−7.5 ± 0.2 dBs

Adjustment Method :

1. Adjust to −7.5 ± 0.2 dBs with VR431.

5-5. PRE-AMP ADJUSTMENT

5-5-1. Playback Frequency Characteristic Adjustment (Main Board)

Mode	Playback
Signal	Alignment Tape for Frequency Characteristic (SEM-2L)
Equipment	Oscilloscope
Test Point	TP504 Trigger slope : +, (-)
Adjust	RV101, (RV102)
Spec	3.58MHz level : 5.5MHz level = 4 : 3

Note : Items between square brackets (   ) indicate the adjusting element for channel -2.

Adjustment Method :

1. Adjust RV101(RV102) so that the ratio of the 3.58MHz level to the 5.5MHz level is 4 : 3.

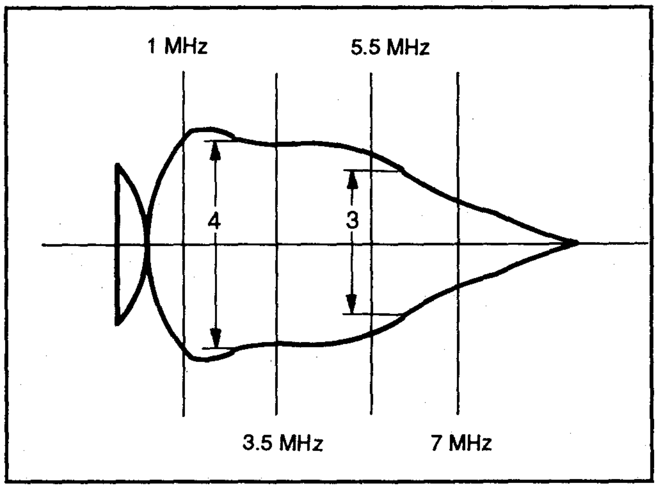


Fig. 12 Playback Frequency Characteristic Adjustment

5-2-2. Flying Erase Frequency Check (Main Board)

Mode	Recording
Signal	Arbitrary
Equipment	TP506
Test Point	Oscilloscope and Frequency counter
Adjust	–
Spec	7.7 ± 0.5 MHz

Checking Method :

1. Confirm that oscillation frequency is 7.7 ± 0.5 MHz and oscillation voltage is 8.0 ± 0.5 Vp-p.

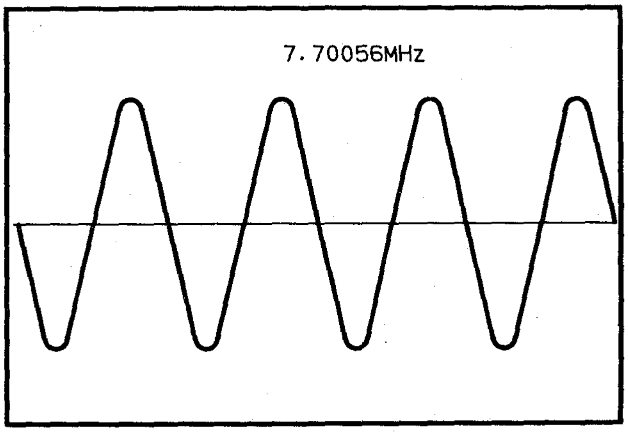


Fig. 13 Flying Erase Frequency Check

5-6. VIDEO ADJUSTMENT

【How to record】
(Use this method only when VTR is adjusted at Recording mode)

- Short-circuit A and B point on VTR function board (Bottom side) as shown in Fig. 14.

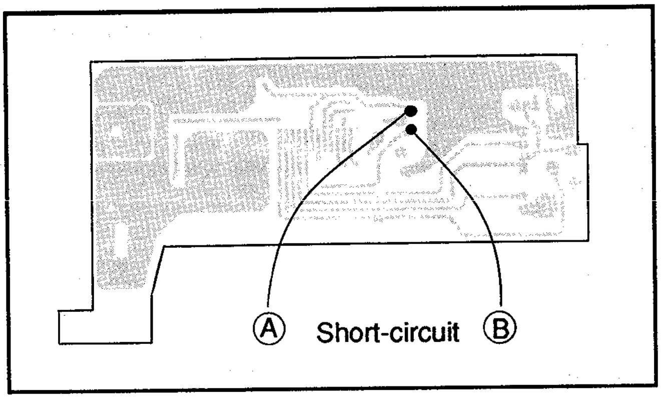


Fig. 14

5-6-1. Y/C Separation Adjustment (Video Board)

Mode	Recording
Signal	Color Bar
Equipment	Oscilloscope, Pattern Generator
Test Point	TP201
Adjust	VR208
Spec	Minimum residual chroma component

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Adjust VR208 so as to minimize the residual chroma component.

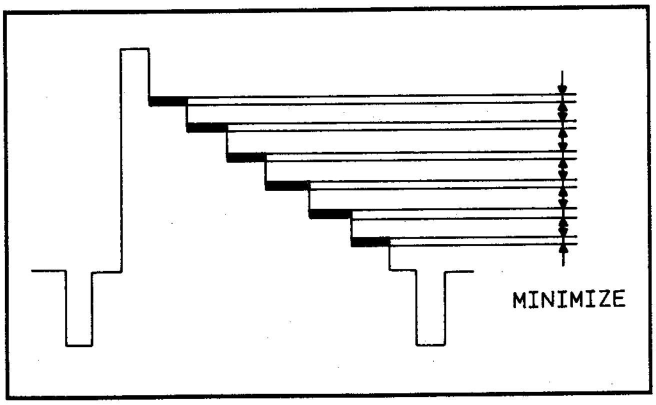


Fig. 15 Y/C Separation Adjustment

5-6-2. IR2 Adjustment (Video Board)

Mode	Recording
Signal	Color Bar
Equipment	Oscilloscope, Pattern Generator
Test Point	TP202
Adjust	VR207
Spec	7.2 ± 0.1 μs

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Adjust VR207 so as to align 7.2μs at the falling edge (⌝_).

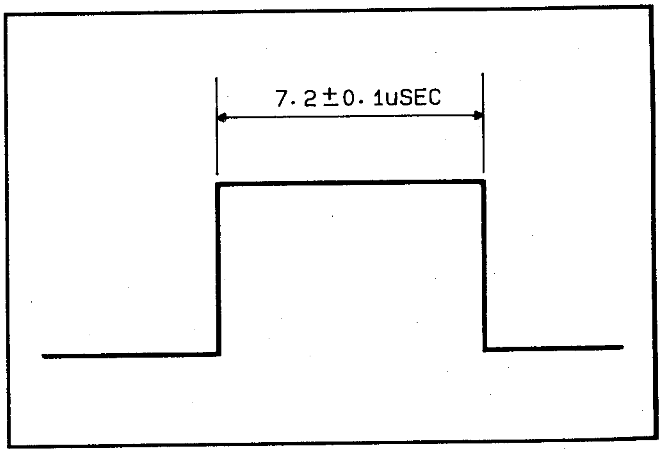


Fig. 16 IR2 Adjustment

5-6-3. Video Output Level Adjustment (Video Board)

Mode	E-E
Signal	Color Bar
Equipment	Oscilloscope, Pattern Generator
Test Point	Video Output Terminal
Adjust	VR212
Spec	1.0 ± 0.05 Vp-p

Note : Video output terminal must be connected to monitor at this adjustment.

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Adjust to 1.0 ± 0.05 Vp-p with VR212.

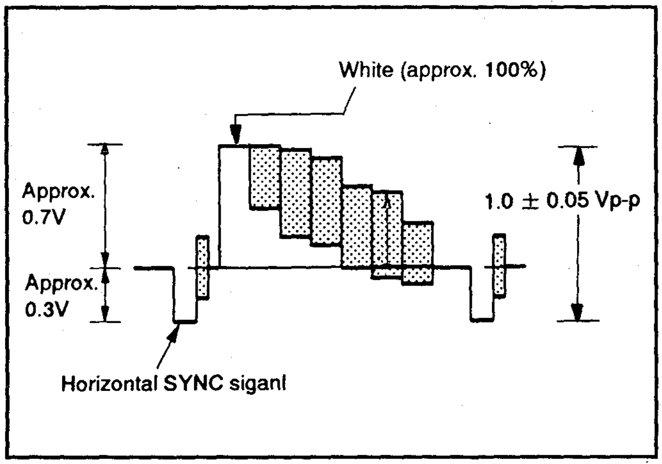


Fig. 17 Video output level Adjustment

5-6-4. Emphasis Input Level Adjustment (Video Board)

Mode	Recording
Signal	ColorBar
Equipment	Oscilloscope, Pattern Generator
Test Point	TP203
Adjust	VR206
Spec	0.50 ± 0.02 Vp-p

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Adjust to 0.50 ± 0.02 Vp-p with VR206.

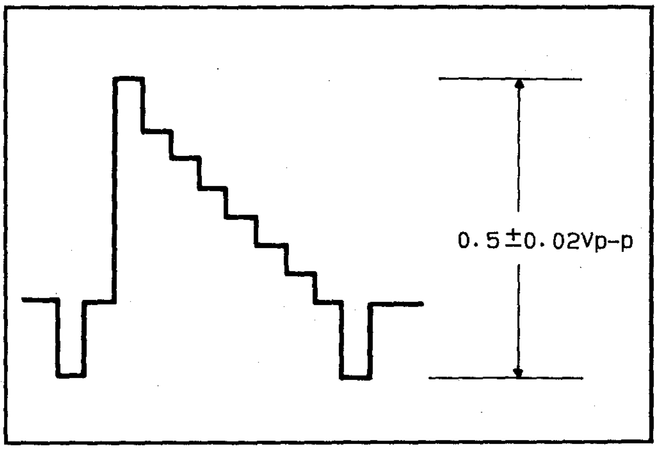


Fig. 18 Emphasis Input Level Adjustment

5-6-5. PB Y Level Adjustment (Video Board)

Mode	Playback
Signal	Alignment Tape for Operation Check (SE2-2).
Equipment	Oscilloscope
Test Point	Video Output Terminal
Adjust	VR203
Spec	1.0 ± 0.05 Vp-p

Note : Video output terminal must be connected to monitor at this adjustment.

Adjustment Method :

1. Adjust to 1.0 ± 0.05 Vp-p with VR203.

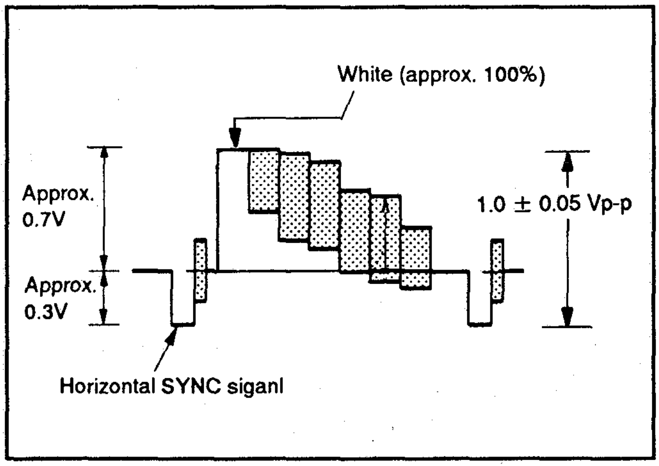

White (approx. 100%)
Approx. 0.7V
Approx. 0.3V
1.0 ± 0.05 Vp-p
Horizontal SYNC siganl

Fig. 19 Playback Y level Adjustment

5-6-6. Y FM Carrier Frequency Adjustment (Video Board)

Mode	Recording
Signal	Non-Signal
Equipment	Frequency Counter
Test Point	TP204
Adjust	VR205
Spec	4.36 ± 0.05 MHz

Adjustment Method :

1. Adjust to 4.36 ± 0.05 MHz with VR205.

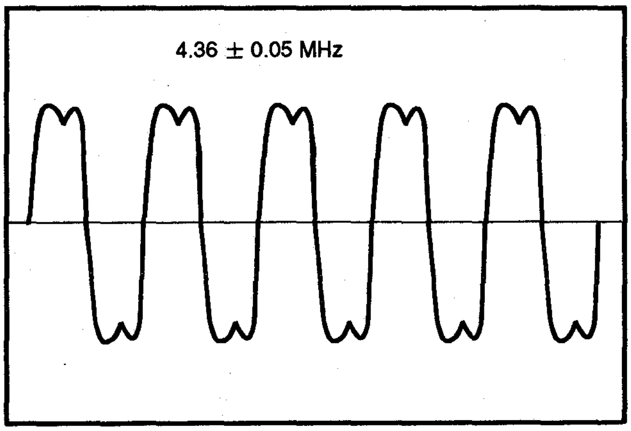


Fig. 20 FM Carrier Frequency Adjustment

5-6-7. Y-FM Deviation Adjustment (Video Board)

Mode	Recording and playback
Signal	Color Bar
Equipment	Oscilloscope, Pattern Generator
Test Point	Video out terminal
Adjust	VR204
Spec	Playback level is 1.0 ± 0.05 Vp-p

Note :
1. Confirm that "PB Y Level Adjustment" and "Y FM Carrier Frequency Adjustment" have been completed.
2. Video out terminal must be connected to monitor.

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Record the color bar signal.
3. Playback the recorded signal.
4. Confirm the playback output.
   Specified value : 1.0 ± 0.05 Vp-p
5. If the specified value is not satisfied, repeat 1 to 3 after turning VR204 in the following manner.

	Rotation direction of VR204
When larger than specified value	Clockwise (↻)
When smaller than specified value	Counterclockwise (↺)

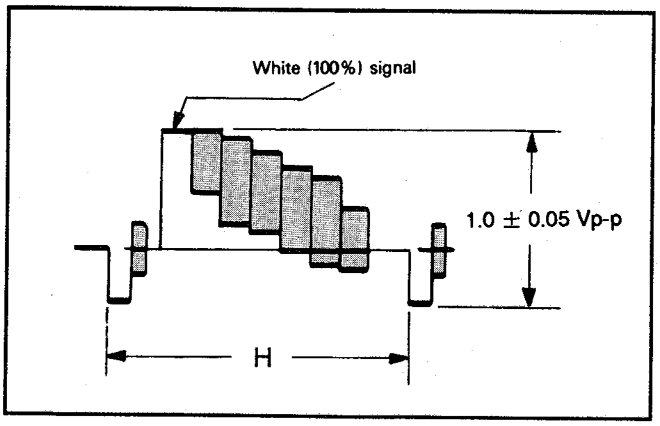


Fig. 21 Y-FM Deviation Adjustment

5-6-8. Recording Y Current Adjustment

Mode	Recording
Signal	Non-Signal
Equipment	Oscilloscope
Test Point	TP507 (Syscon/Servo Board)
Adjust	VR201 (Video Board)
Spec	200 ± 10 mVp-p

Adjustment Method :

1. Adjust to 200 ± 10 mVp-p with VR201.

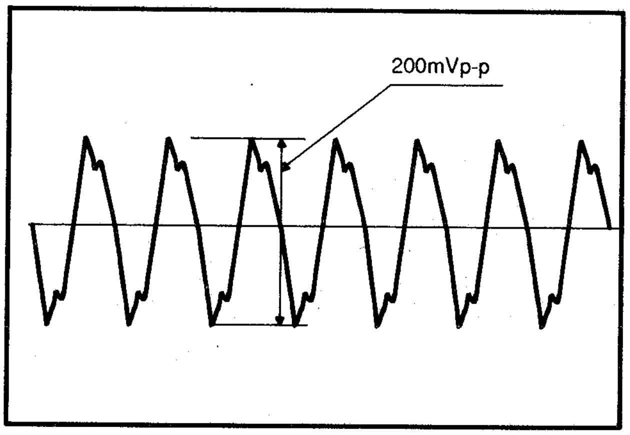


Fig. 22 Recording Y Current Adjustment

5-6-9. Chroma Emphasis fo Adjustment (Video Board)

Mode	Recording
Signal	Color Bar
Equipment	Oscilloscope, Pattern Generator
Test Point	TP205
Adjust	FL201
Spec	Minimum fo Component

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Adjust FL201 so as to minimize amplitude of the chroma signal red flat portion.

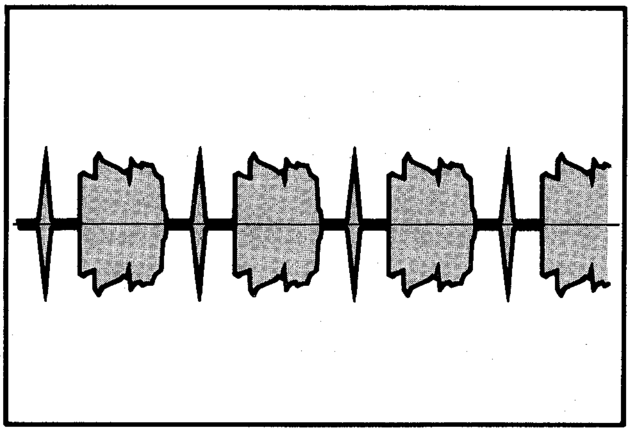


Fig. 23 Chroma Emphasis fo Adjustment

5-6-10. REC C Current Adjustment (Video Board)

Mode	Recording
Signal	Color Bar
Equipment	Oscilloscope, Pattern Generator
Test Point	TP205
Adjust	VR202
Spec	120 ± 10 mVp-p

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Adjust to 120 ± 10 mVp-p with VR202.

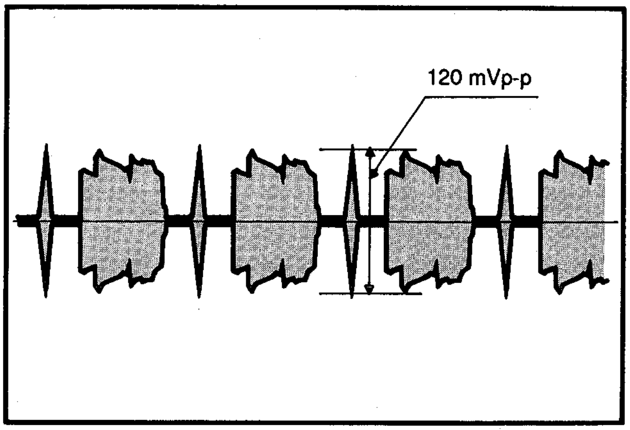


Fig. 24 REC C Current Adjustment

5-6-11. APC LPF Adjustment (Video Board)

Mode	Playback (LP)
Signal	Alignment Tape for Operation Check (SE2-2L)
Equipment	Confirmation on monitor TV screen
Test Point	TP208
Adjust	VR210
Spec	Minimum chroma flickering

Adjustment Method :

1. Set the monitor TV color level to maximum and its bright level to minimum.
2. Minimize chroma flicker with RV210 so that horizontal black stripes cannot longer be seen.

5-6-12. Fsc Level Adjustment (Video Board)

Mode	Playback (LP)
Signal	Alignment Tape for Operation Check (SE2-2L)
Equipment	Oscilloscope
Test Point	TP207
Adjust	VR209
Spec	260 ± 10 mVp-p

Adjustment Method :

1. Adjust to 260 ± 10 mVp-p with VR209.

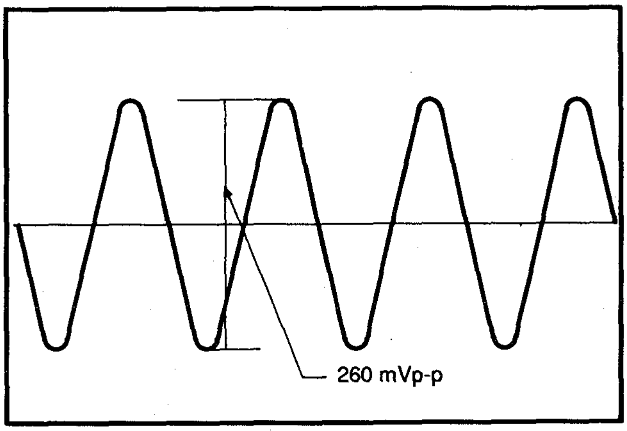


Fig. 25 Fsc Level Adjustment

5-6-13. Burst Level Adjustment (Video Board)

Mode	Playback (LP)
Signal	Alignment Tape for Operation Check (SE2-2L)
Equipment	Oscilloscope
Test Point	Video Output Terminal
Adjust	VR211
Spec	0.3 ± 0.02 Vp-p

Adjustment Method :

1. Adjust to 0.3 ± 0.02 Vp-p with VR211.

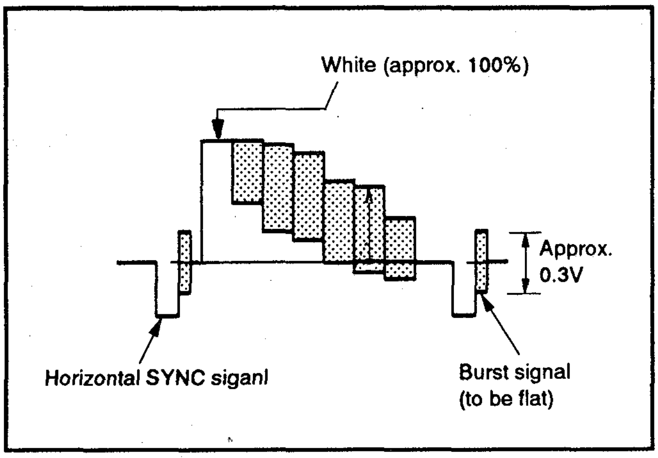

White (approx. 100%)
Approx. 0.3V
Horizontal SYNC siganl
Burst signal (to be flat)

Fig. 26 Burst Level Adjustment

Note : Video output terminal must be connected to monitor at this adjustment.

5-6-14. Charactor Position Adjustment (Video Board)

Mode	E-E
Signal	Color Bar
Equipment	Monitor TV, Pattern Generator
Test Point	
Adjust	VC401
Spec	The bottom of Digital Counter locates Edge of blue color bar.

Adjustment Method :

1. Apply pattern generator color bar signal to the video input connector J202 (Video Board).
2. Adjust VC401 so that the bottom of digital counter locates edge of blue color bar.

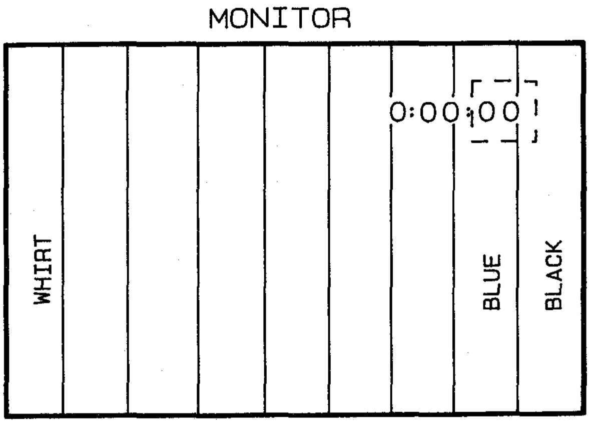

MONITOR
0:00:00
WHIRT
BLUE
BLACK

Fig. 27 Charactor Position Adjustment

5-6-15. STILL Position Adjustment

Mode	LP Playback with self record
Signal	Camera Input
Equipment	Monitor TV
Test Point	
Adjust	VR213 (Video Board)
Spec	Noise bar has to be located under position as possible

Adjustment Method :

1. Record about 5 minutes on LP position with CAMERA mode.
2. Short-circuit pin 1 and pin 2 of VTR function board CN508 and Play the recorded tape. (See Fig. 29)
3. Adjust VR213 so as to locate the noise bar to under position on the monitor at still mode.

Note : Repeat the adjustment untill the noise bar is to be located under position as possible.
(still → adjust → still → adjust → ……)

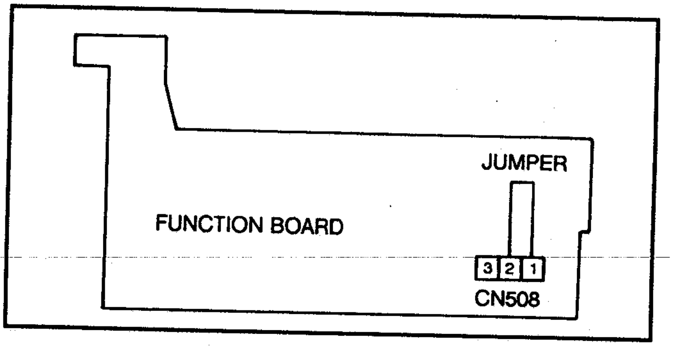
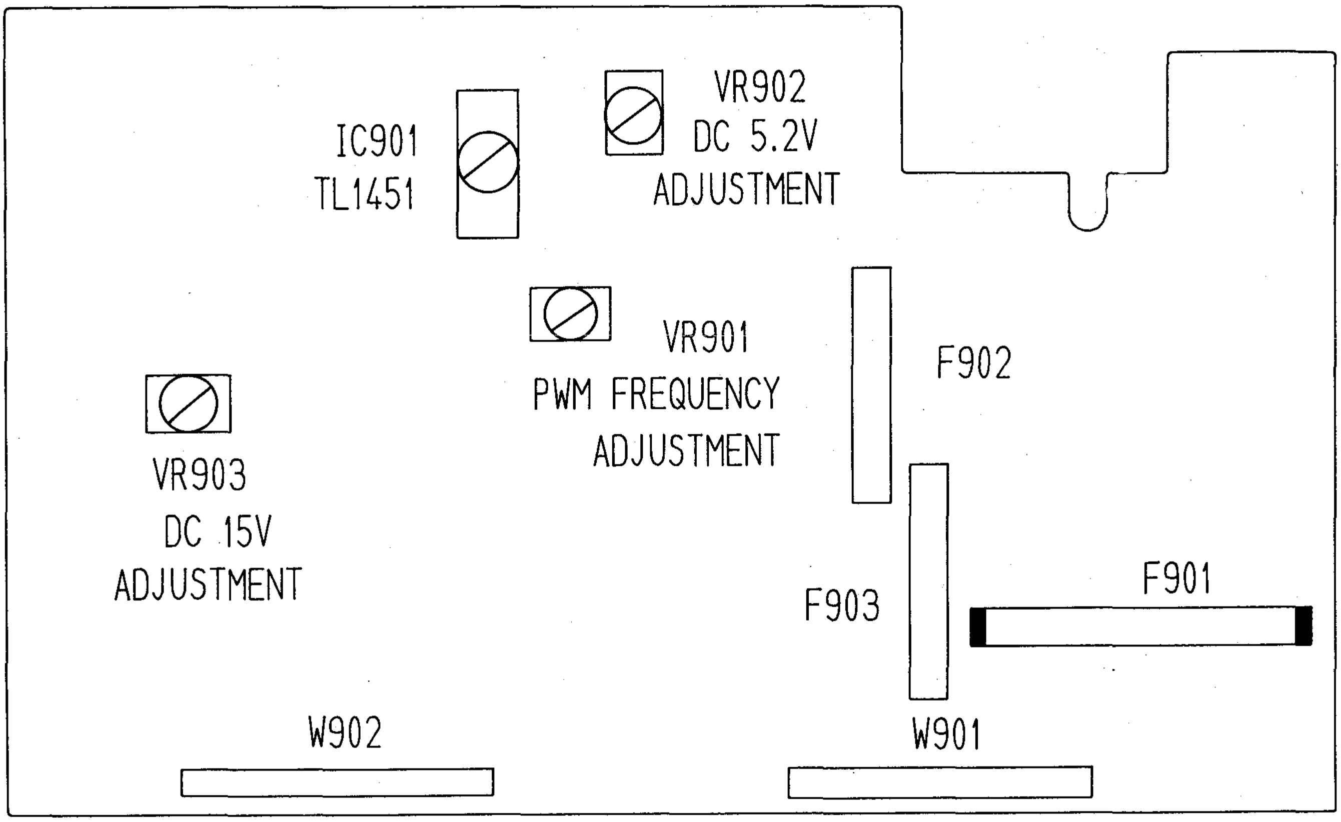


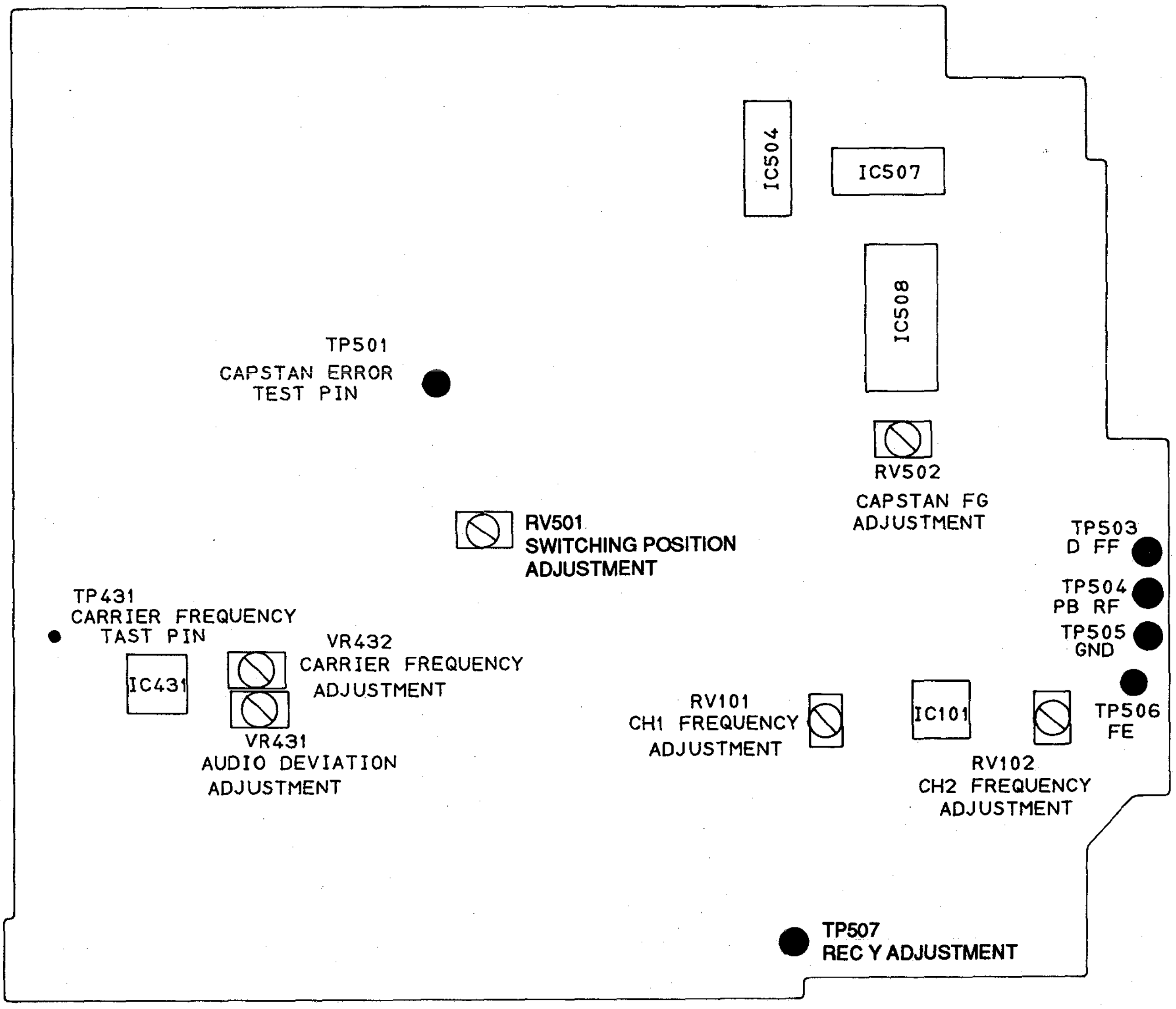
Fig. 28

5-7. LOCATION OF TEST POINTS AND CONTROLS

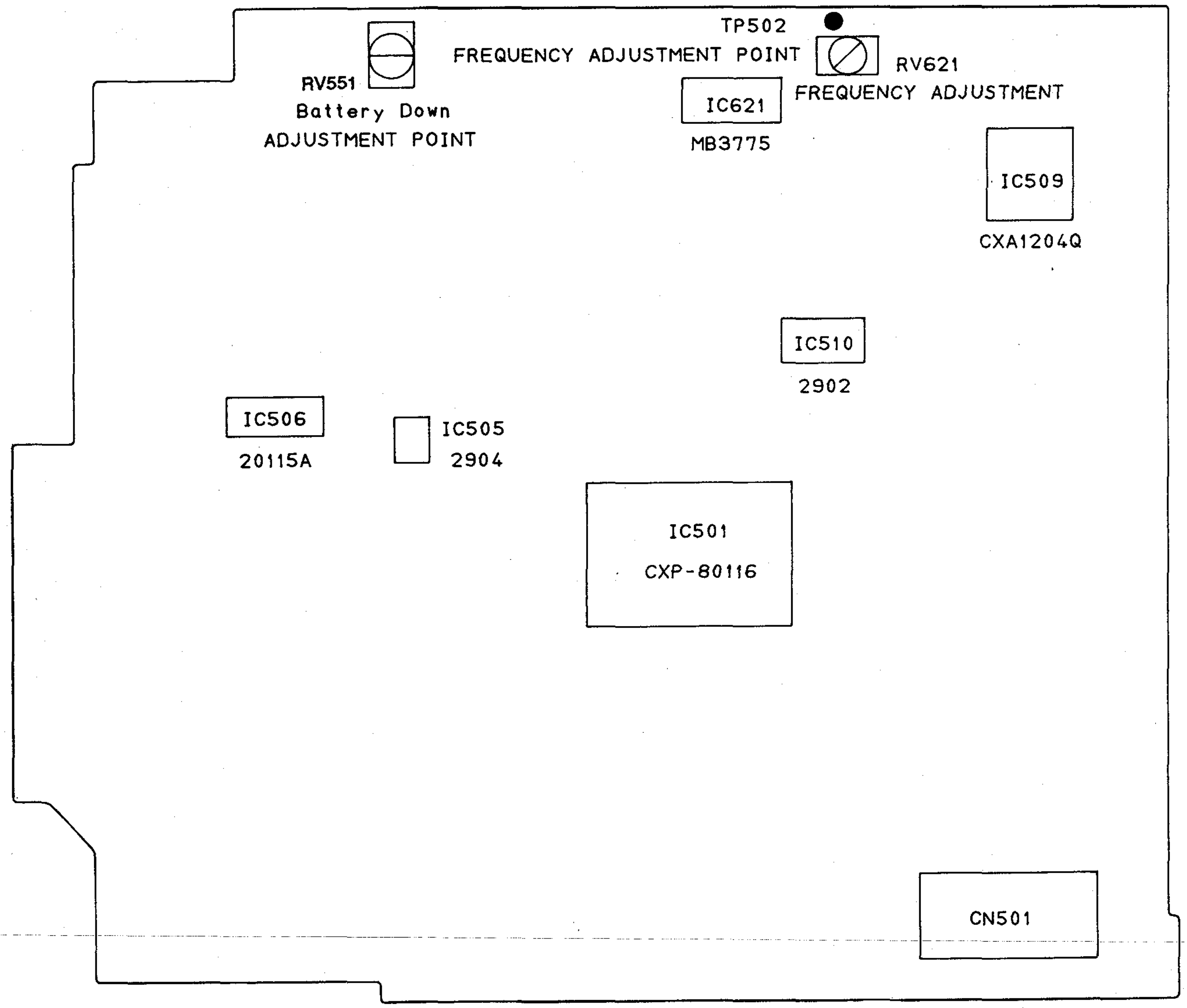
5-7-1. DC/DC CONVERTER (COMPONENT SIDE)


IC901
TL1451
VR902
DC 5.2V
ADJUSTMENT
VR901
PWM FREQUENCY
ADJUSTMENT
F902
VR903
DC 15V
ADJUSTMENT
F903
F901
W902
W901

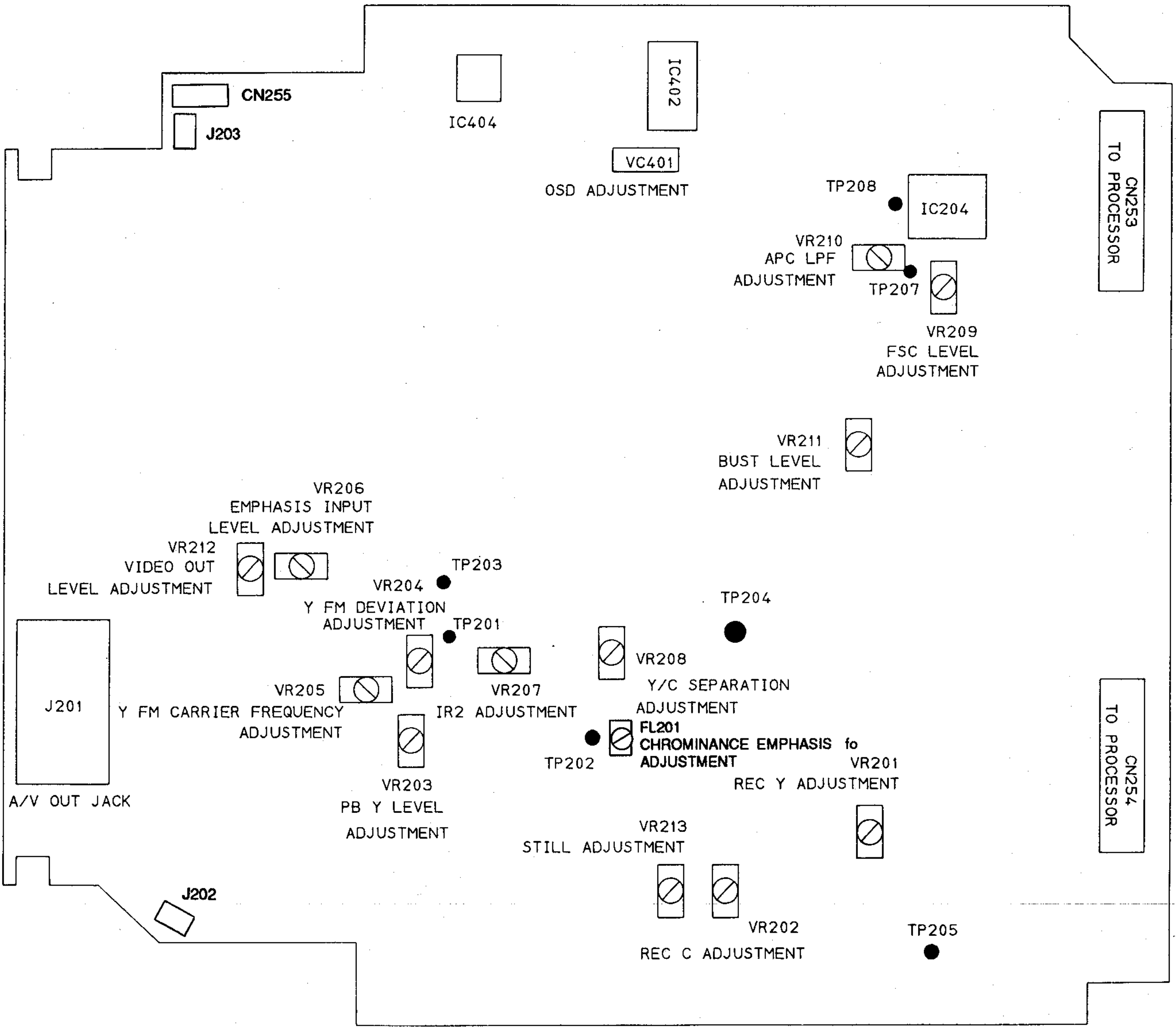
5-7-2. MAIN (COMPONENT SIDE)


IC504
IC507
IC508
TP501
CAPSTAN ERROR
TEST PIN
RV502
CAPSTAN FG
ADJUSTMENT
RV501
SWITCHING POSITION
ADJUSTMENT
TP503
D FF
TP504
PB RF
TP505
GND
TP431
CARRIER FREQUENCY
TAST PIN
VR432
CARRIER FREQUENCY
ADJUSTMENT
IC431
VR431
AUDIO DEVIATION
ADJUSTMENT
RV101
CH1 FREQUENCY
ADJUSTMENT
IC101
TP506
FE
RV102
CH2 FREQUENCY
ADJUSTMENT
TP507
REC Y ADJUSTMENT

5-7-3. MAIN (CONDUCTOR SIDE)


TP502
FREQUENCY ADJUSTMENT POINT
RV551
Battery Down
ADJUSTMENT POINT
IC621
MB3775
RV621
FREQUENCY ADJUSTMENT
IC509
CXA1204Q
IC510
2902
IC506
20115A
IC505
2904
IC501
CXP-80116
CN501

5-7-4. VIDEO (COMPONENT SIDE)


CN255
J203
IC404
IC402
VC401
OSD ADJUSTMENT
TP208
IC204
CN253
TO PROCESSOR
VR210
APC LPF
ADJUSTMENT
TP207
VR209
FSC LEVEL
ADJUSTMENT
VR211
BUST LEVEL
ADJUSTMENT
VR206
EMPHASIS INPUT
LEVEL ADJUSTMENT
VR212
VIDEO OUT
LEVEL ADJUSTMENT
TP203
VR204
Y FM DEVIATION
ADJUSTMENT
TP201
TP204
VR208
Y/C SEPARATION
ADJUSTMENT
J201
VR205
Y FM CARRIER FREQUENCY
ADJUSTMENT
VR207
IR2 ADJUSTMENT
FL201
CHROMINANCE EMPHASIS fo
ADJUSTMENT
TP202
VR201
REC Y ADJUSTMENT
CN254
TO PROCESSOR
A/V OUT JACK
VR203
PB Y LEVEL
ADJUSTMENT
VR213
STILL ADJUSTMENT
J202
VR202
REC C ADJUSTMENT
TP205

6. IC PIN FUNCTION CHART, TIMING CHART/TROUBLESHOOTING GUIDE

6-1. SYSTEM CONTROL AND CAMERA SECTION IC PIN FUNCTION DESCRIPTION

The system control section consists of the following two microcomputers :

- Mode/mechanism control microcomputer CXP80116
- CAMERA microcomputer μ PD7500XGB

6-1-1. Mode/Mechanism Control Microcomputer CXP80116 (IC501 on VTR Main Board)

1. Function description

1) Power ON/OFF control
2) Key matrix read
   (Playback, fast-forward, rewind, pause, still, stop, data screen, SP/$\overline{\text{LP}}$, etc ...)
3) Reading of other keys
   (Power (camera/off/video), cassette eject)
4) Servos
5) Loading motor control
6) Error detection
   Battery end/pre-end
   Tape end/pre-end
   No cassette
   Erasure prevention
   DEW(condensation)
   PAUSE release
   CLOG(jamming)
   L. motor emergency
   Drum rotation
   Reel rotation
   Capstan rotation
   Drum/capstan start
7) H.M.S counter
8) JOG VD insertion
9) Auto Rewind
10) Battery Residual Indication etc

2. Abbreviated specifications

- 8-bit high-speed, highly integrated single chip microcomputer
- A/D converter, 8-bit, 8-channel
- Serial interface
- Time/counter
- Time base timer
- Vector interrupts
- High precision timing pattern generation function (high-speed output)
- PWM/DA gate pulse output. 12-bit, 2-channel
- High precision measurement function(FRC) for servo signals
- Power on reset function
- Sleep and stop functions
- External memory expansion mode, microcomputer mode
- ROM : 16 kbytes
- RAM : 352 kbytes
- Speed : 500 ns
- Process : C-MOS
- Operating voltage : 4.5 to 5.5V
- Package : 80-pin flat package

6-1-2. DDS Microcomputer UPD75004GB (IC601 on CAMERA Function Board)

1. Function description

1) Internal data communication control
2) Data/time measurement
3) LCD indication
4) Reading of key matrix
(White balance, electronic shutter, edit search +/-, auto-lock,focus mode, counter reset, zero memory, title, memory, color/mode, date/forward, time/set)

2. Operation modes

As shown in the table below, the operation mode is determined according to the position of the power switch (camera/off/video) and whether or not there is a main battery.

Mode	Main Battery	Power Switch	Microcomputer Power	Clock Mode	Main Function
BACK UP	No	Camera/off /Video	Lithium battery	500 ms intermittent oscillation	• Backup of title and tape counter data • Clock count operation
	Yes	Off			
VTR ON	Yes	Video	EVER (main battery)	Continuous oscillation	• Indication to EVF • Acceptance of zero memory and counter reset keys
CAM ON	Yes	Camera	EVER (main battery)	Continuous oscillation	• VTR ON functions + all camera features • Indication control for white balance, focus, titles, electronic shutter, etc.

6-1-3. Mode/Mechanism Control Peripheral Circuit Interface

PIN NO.	SIGNAL NAME	I/O	FUNCTION AND I/O LEVEL
1	SEL 2	O	Servo TPS(Tracking Pilot Signal) select signal
2	SEL 1	O	Servo TPS(Tracking Pilot Signal) select signal
3	VTR DD ON	O	VTR DC/DC converter on/off signal "H" when power of video or camera is turned on.
4	TSB	O	Servo ATF(Auto Track Finding) AGC signal.
5	CAM DD ON	O	Camera DC/DC converter on/off signal "H" when power of camera is turned on.
6	DATA SCREEN	O	"H" when data screen is turned on.
7	SP/$\overline{\text{LP}}$	O	"H" during SP recording mode or playback of tape recorded in SP mode
8	JOG	O	"H" during Multi-Function mode (STILL, RPS, FPS, SLOW, F.ADV)
9	VA PB MODE	O	"H" during PB mode (PLAY, STILL.RPS, FPS, SLOW)
10	DRUM ON	O	Drum motor ON/OFF control signal "H" when drum motor turned on.
11	N.C		Not Connected
12	$\overline{\text{SYS RESET}}$	O	Not used
13	$\overline{\text{VIDEO CS}}$	O	Video IC select signal when transmitting serial data
14	AUDIO MUTE	O	Audio killer signal in Multi-Function. (STILL, RPS, FPS, SLOW)
15	$\overline{\text{MIN 3}}$	I	Key matrix input signal : "H" (Other. "L")
16	$\overline{\text{MIN 2}}$	I	Key matrix input signal : "H" (Other. "L")
17	$\overline{\text{MIN 1}}$	I	Key matrix input signal : "H" (Other. "L")
18	$\overline{\text{MIN 0}}$	I	Key matrix input signal : "H" (Other. "L")
19	T/E LED	O	Tape Top/End LED lighting control signal STOP/PB/REC/PB.PAUSE/REC.PAUSE/REVIEW : 170 msec period "H" pulse, CUE : 25 msec period "H" pulse, FF/REW : 12 msec period "H" pulse, EJECT or CASSETTE IN detecting : 25 msec period "H" pulse.
20	UNLOADING	O	Normally : "L" ("H" in Unthreading, "H" pulse is output in Mechanical mode transition)
21	LOADING	O	Normally : "L" ("H" in Threading, "H" pulse output is in Mechanical mode transition)

PIN NO.	SIGNAL NAME	I/O	FUNCTION AND I/O LEVEL
22	M OUT 4	O	Key matrix output signal 20 msec period "H" pulse
23	M OUT 3	O	Key matrix output signal 20 msec period "H" pulse (Include Top/End sensing scanning pulse period : REF pin 19)
24	$\overline{\text{M OUT 2}}$	O	Key matrix output signal 20 msec period "L" pulse
25	$\overline{\text{M OUT 1}}$	O	Key matrix output signal 20 msec period "L" pulse
26	$\overline{\text{M OUT 0}}$	O	Key matrix output signal 2 msec period "L" pulse
27	$\overline{\text{TALLY}}$	O	TALLY LED control signal. Normally : "H" ("L" during REC mode when power switch is set to CAMERA position)
28	$\overline{\text{VP SAVE}}$	O	Video power control signal "H" : STOP, F.F, REW, REC PAUSE, "L" : PB, STILL, FPS, RPS, REC, SLOW
29	SYNC DET	O	Video Signal detection "H" when video signal
30	N.C		Not Connected
31	GND		Ground
32	$\overline{\text{RESET}}$	I	Normally : "H" (Reset : "L")
33	Vss		Power GND
34	X-TAL	O	Connected 16MHz Crystal
35	EXTAL	I	Connected 16MHz Crystal
36	$\overline{\text{COSMO CS}}$	I	CAMERA u-COM select signal when interfacing serial data
37	COSMO SI	I	1V period data input from CAMERA u-COM
38	COSMO SO	O	1V period data output to CAMERA u-COM and Video IC
39	$\overline{\text{COSMO SCK}}$	I/O	1V period serial clock used in data interfacing
40	$\overline{\text{CAM P SW}}$	I	"L" when power switch is set to CAMERA position and standby switch to STANDBY position
41	$\overline{\text{DEW}}$	I	Normally ; "H" ("L" when dew)
42	$\overline{\text{M IN 5}}$	I	Key matrix input signal : "H" (Other. "L")

PIN NO.	SIGNAL NAME	I/O	FUNCTION AND I/O LEVEL
43	$\overline{\text{M IN 4}}$	I	Key matrix input signal : "H" (Other. "L")
44	$\overline{\text{START/STOP}}$	O	Normally : "H" ("L" when start/stop button is pressed)
45	$\overline{\text{EJECT}}$	I	Normally : "H" ("L" when EJECT switch is pressed)
46	$\overline{\text{LINCS}}$	I	Wired remocon voltage level input (0 - 5V)
47	$\overline{\text{DEW}}$	I	Normally : "H" ("L" when dew)
48	BATT DOWN	I	Main battery voltage (CAM UNREG) is divided by VR551 (battery down adjustment) and input, for detecting battery end/pre-end.
49	STILL ADJ	I	DC voltage set by VR213 (STILL adjustment) on the Video board is input.
50	SW POS ADJ	I	Head switching position adjust voltage input
51	ATF ERROR	I	ATF (Auto Track Find) signal input
52	AVss		A/D Converter ground
53	AVref	I	A/D Converter reference voltage input
54	AVDD	I	A/D Converter drive voltage input
55	DRUM PG	I	Input port of Drum PG pulse
56	N.C		Not Connected
57	CLOG	I	Normal playback : "L" ("H" when PB RF signal is not reproduced due to head clog, etc..)
58	COMP SYNC	I	Input port of video composite sync signal
59	PB SP/$\overline{\text{LP}}$	I	Recorded speed mode detection signal in FF, REW, CUE or REVIEW mode ("H" in SP mode, "L" in LP mode)
60	DRUM PG	I	Input port of Drum PG pulse
61	DRUM FG	I	Input port of Drum FG pulse
62	CAP FG	I	Input port of Capstan FG pulse
63	CAM/$\overline{\text{LINE}}$	O	Audio input select signal ("H" when camera mode, "L" when VTR mode)
64	VIDEO MUTE	O	Video killer signal
65	CAP D/A	O	Capstan acceleration and deacceleration signal when occurs mode transition
66	DRUM D/A	O	Drum phase error voltage
67	CAP PWM	O	PWM for capstan speed control signal

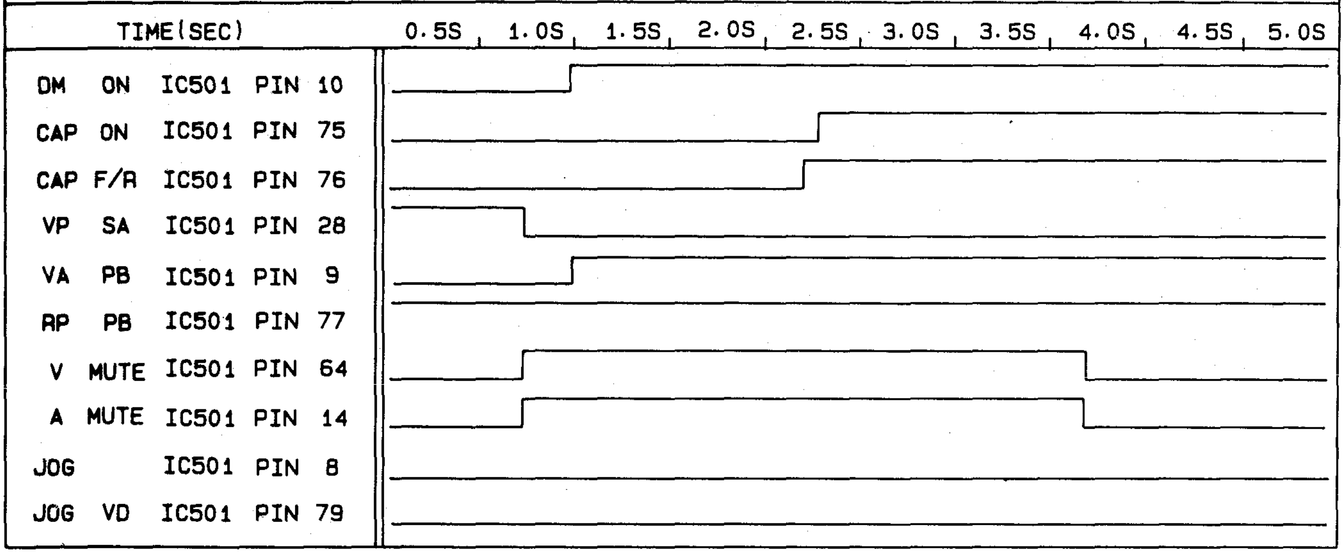
PIN NO.	SIGNAL NAME	I/O	FUNCTION AND I/O LEVEL
68	DRUM FWD/$\overline{\text{REV}}$	O	Drum motor FWD/REV control signal
69	CAP FG	I	Output port of capstan FG pulse
70	VTR P SW	I	Normally : "H" ("L" when power switch is set to video position)
71	N.C		Not Connected
72	VDD	I	u-COM drive voltage
73	Vss		u-COM GND
74	Vpp		
75	CAP ON/OFF	O	Capstan motor ON/OFF select signal
76	CAP FWD/$\overline{\text{REV}}$	O	Capstan motor FWD/REV control signal
77	RP PB MODE	O	"L" when REC mode
78	$\overline{\text{FE ON}}$	O	Flying Erase Head ON/OFF control signal "L" when REC mode
79	JOG VD	O	Quasi vertical sync used in multi-function mode
80	H'd SW(RF SW P)	O	Head switching pulse output signal

6-1-4. DDS Microcomputer (IC601 on Camera Function Board) - Peripheral Circuit Interface

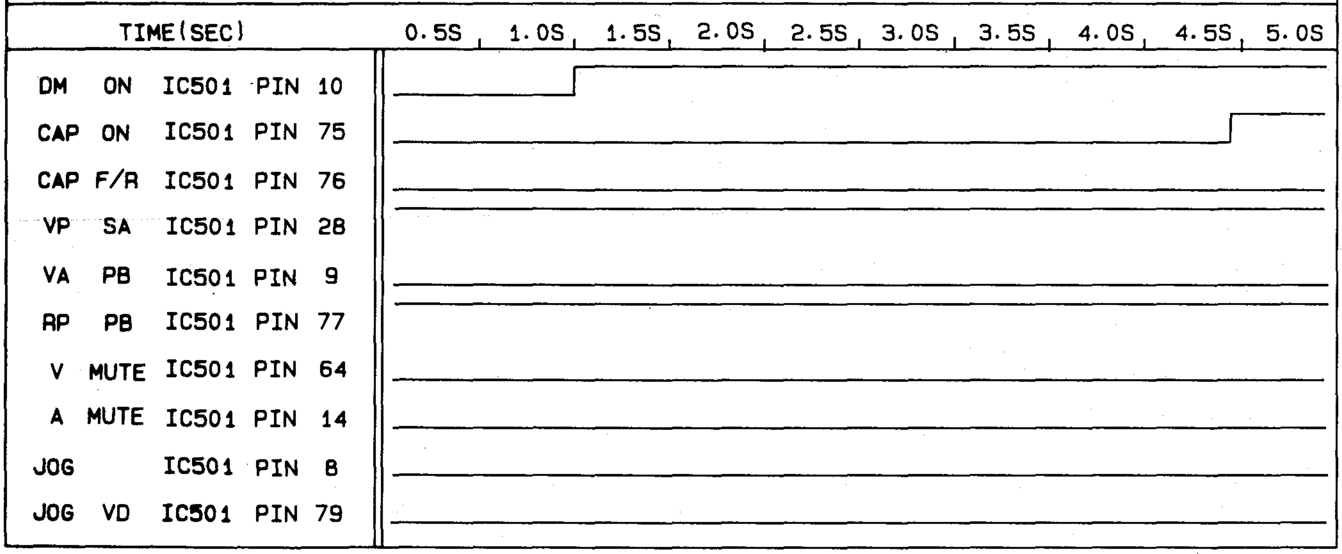
PIN NO.	SIGNAL NAME	I/O	FUNCTION AND I/O LEVEL
1	CG CS	O	CHIP select signal to character gen. 20ms period "L" pulse
2	COSMO CS	O	CHIP select signal to syscon u-COM V period "L" pulse
3	AF	O	Signal output to AF
4	N.C	I	L
5	SIM BUSY	I	Busy signal input from the superimpose IC
6	TEST	I	CAM MODE "H" Camera only ; "L", Interface ; "H"
7	N/P	I	NTSC : "H", PAL : "L"
8	CMI 3	I	Key matrix input signal
9	CMI 2	I	
10	CMI 1	I	
11	CMI 0	I	
12	N.C		
13	CMO 0	O	Key matrix output signal
14	CMO 1	O	
15	CMO 2	O	
16	CMO 3	O	
17	VSS		GND
18	X1	I	32.768KHz input port
19	X2		
20	RESET	I	Reset input "L"
21	CL 1		4.19MHz clock input
22	CL 2		
23	CG STB	O	Strobe signal output to CG IC
24	TG STB	O	Strobe signal output to shatter
25	SRAM CS	O	CHIP Select signal to S RAM IC
26	SIM STB	O	STB signal output to superimpose
27	W/B B	O	Signal output W/B
28	W/B A	O	
29	DDS SI	I	Serial DATA input
30	DDS SO	O	Serial DATA output
31	DDS SCK	O	Serial DATA output
32	N.C	I	
33	N.C	I	
34	N.C		
35	LIPE	I	Battery end "L" back up "H"
36	VTR PWR	I	Interrupt
37	N.C		
38	N.C		
39	VDD	I	u-COM power input
40	TIM CLK	O	Time CLK output
41	SIM SLK	O	Superimpose CLK output
42	TELE	O	Tele mode "H"
43	WIDE	O	Wide mode "H"
44	SIM DA	O	Superimpose DATA output

6-2. MODE / MECHANISAM TIMING CHART

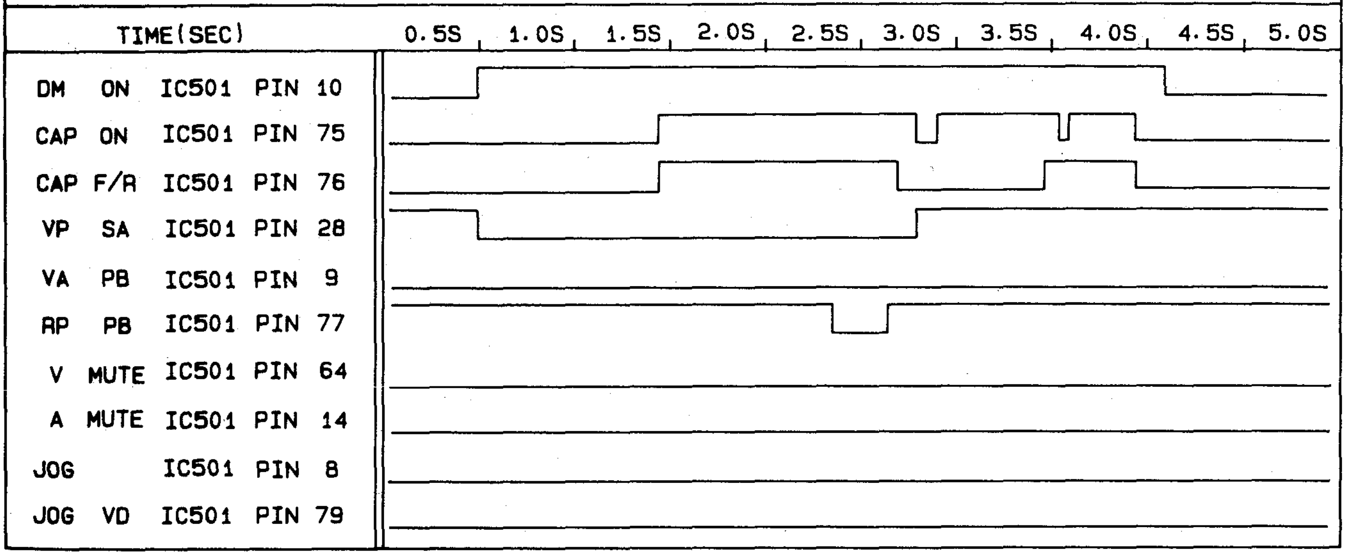
6-2-1. STOP → PLAY MODE


TIME(SEC)
0.5S
1.0S
1.5S
2.0S
2.5S
3.0S
3.5S
4.0S
4.5S
5.0S
DM ON IC501 PIN 10
CAP ON IC501 PIN 75
CAP F/R IC501 PIN 76
VP SA IC501 PIN 28
VA PB IC501 PIN 9
RP PB IC501 PIN 77
V MUTE IC501 PIN 64
A MUTE IC501 PIN 14
JOG IC501 PIN 8
JOG VD IC501 PIN 79

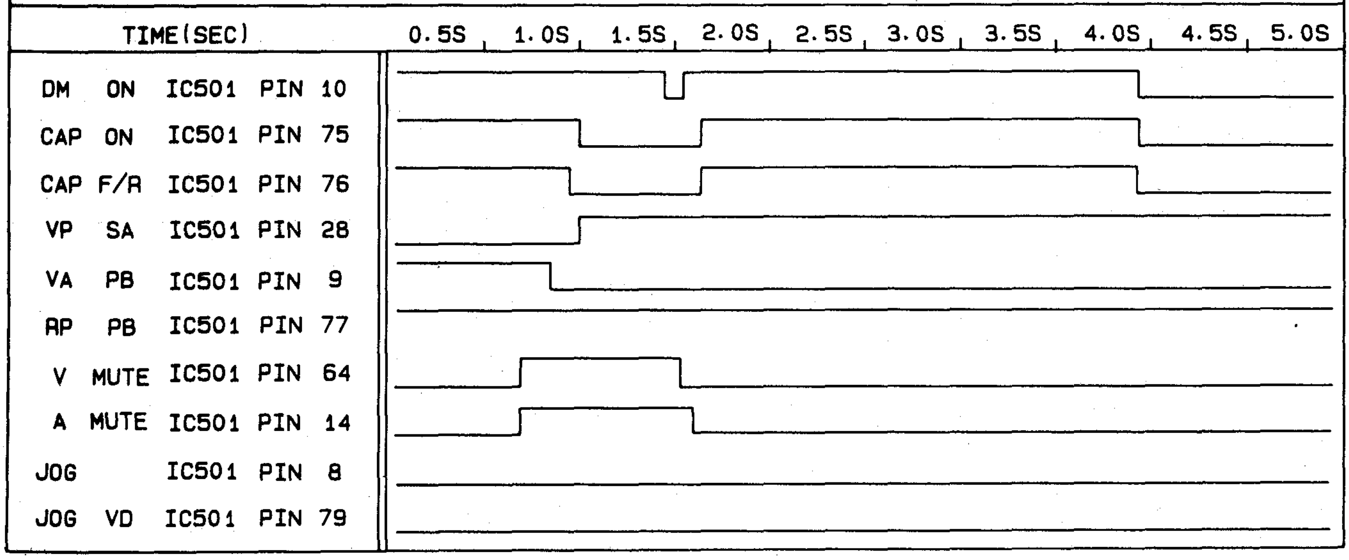
6-2-2. STOP → REW MODE


TIME(SEC)
0.5S
1.0S
1.5S
2.0S
2.5S
3.0S
3.5S
4.0S
4.5S
5.0S
DM ON IC501 PIN 10
CAP ON IC501 PIN 75
CAP F/R IC501 PIN 76
VP SA IC501 PIN 28
VA PB IC501 PIN 9
RP PB IC501 PIN 77
V MUTE IC501 PIN 64
A MUTE IC501 PIN 14
JOG IC501 PIN 8
JOG VD IC501 PIN 79

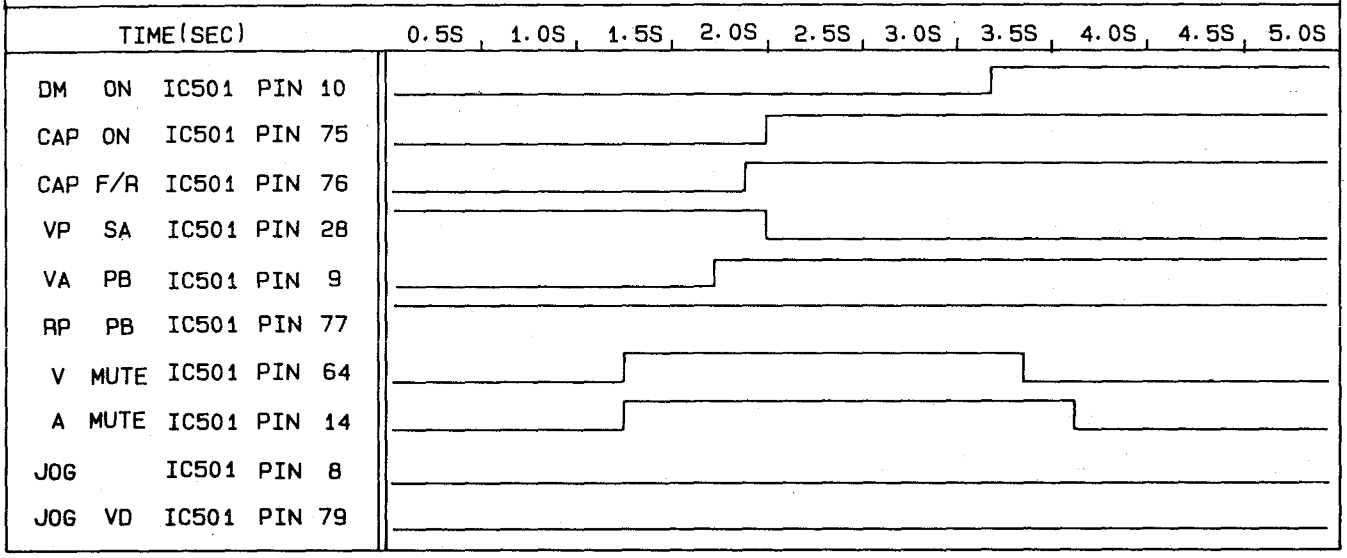
6-2-3. STOP → REC → STOP MODE


TIME(SEC)
0.5S
1.0S
1.5S
2.0S
2.5S
3.0S
3.5S
4.0S
4.5S
5.0S
DM ON IC501 PIN 10
CAP ON IC501 PIN 75
CAP F/R IC501 PIN 76
VP SA IC501 PIN 28
VA PB IC501 PIN 9
RP PB IC501 PIN 77
V MUTE IC501 PIN 64
A MUTE IC501 PIN 14
JOG IC501 PIN 8
JOG VD IC501 PIN 79

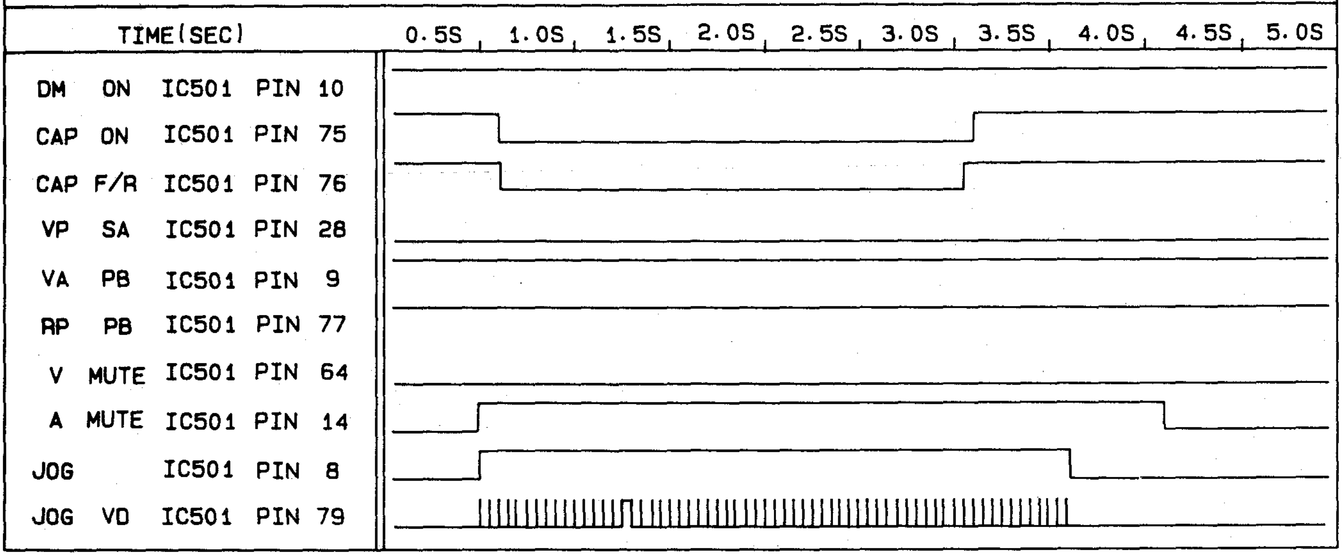
6-2-4. PLAY → EJECT MODE


TIME(SEC)
0.5S
1.0S
1.5S
2.0S
2.5S
3.0S
3.5S
4.0S
4.5S
5.0S
DM ON IC501 PIN 10
CAP ON IC501 PIN 75
CAP F/R IC501 PIN 76
VP SA IC501 PIN 28
VA PB IC501 PIN 9
RP PB IC501 PIN 77
V MUTE IC501 PIN 64
A MUTE IC501 PIN 14
JOG IC501 PIN 8
JOG VD IC501 PIN 79

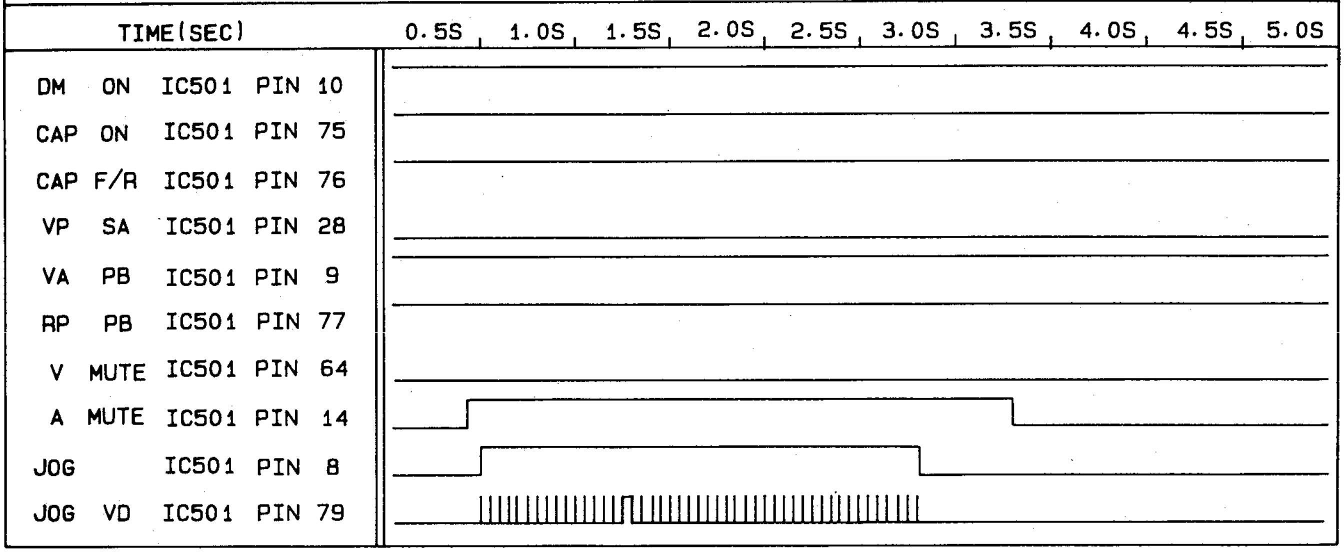
6-2-5. PLAY → STOP MODE



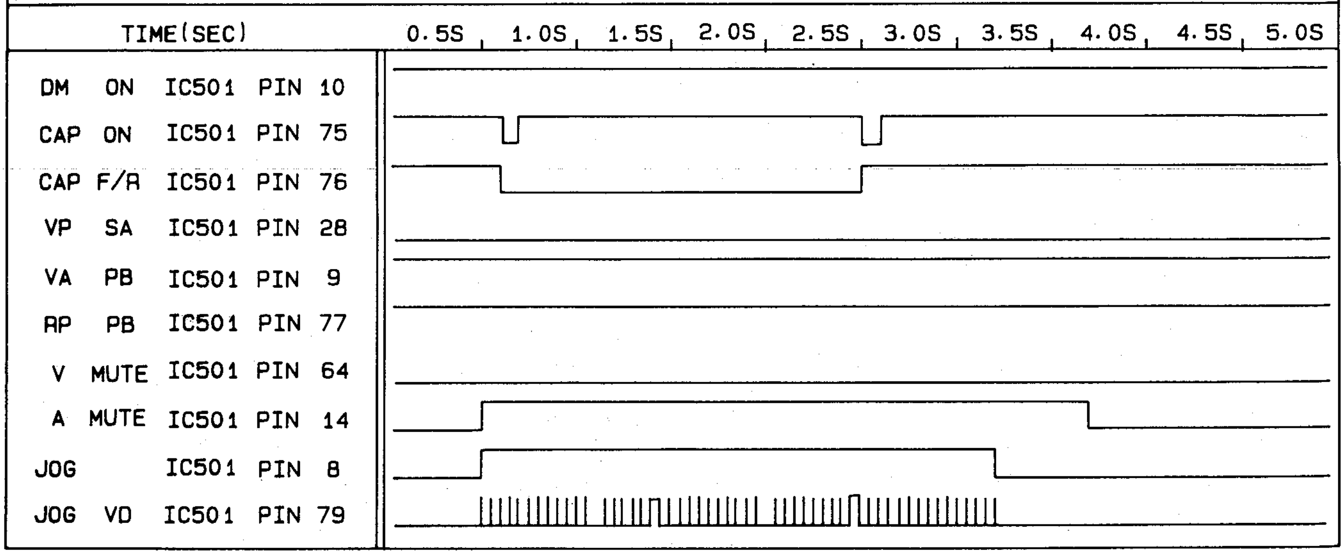
6-2-6. PLAY → STILL → PLAY MODE



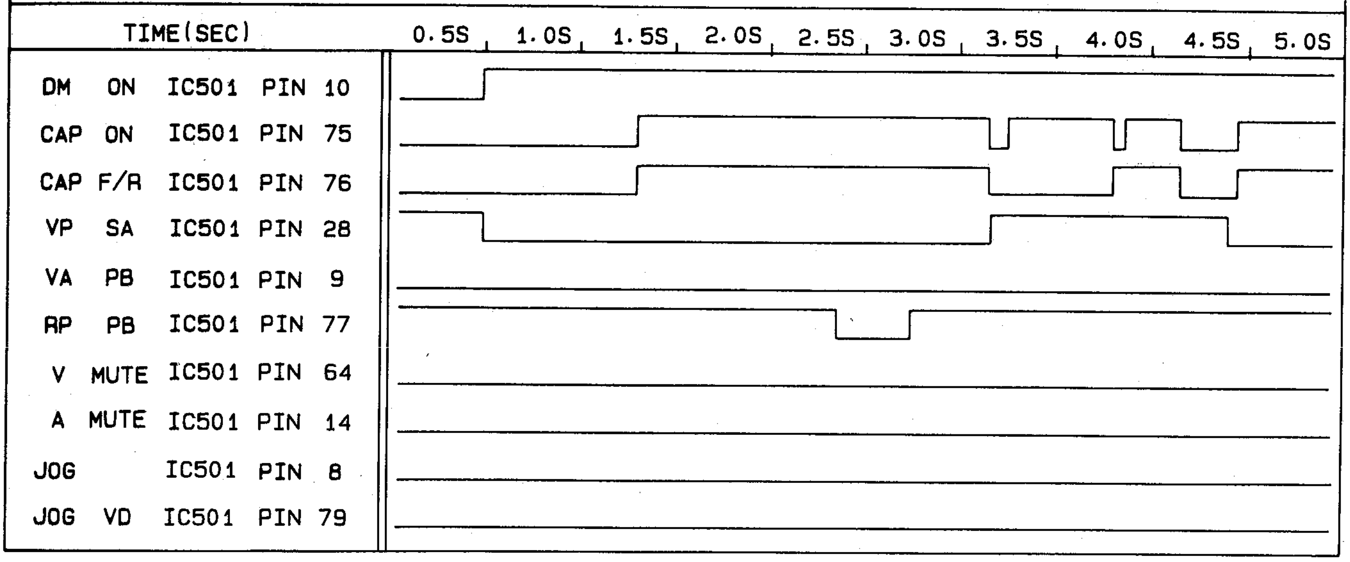
6-2-7. PLAY → FPS → PLAY MODE



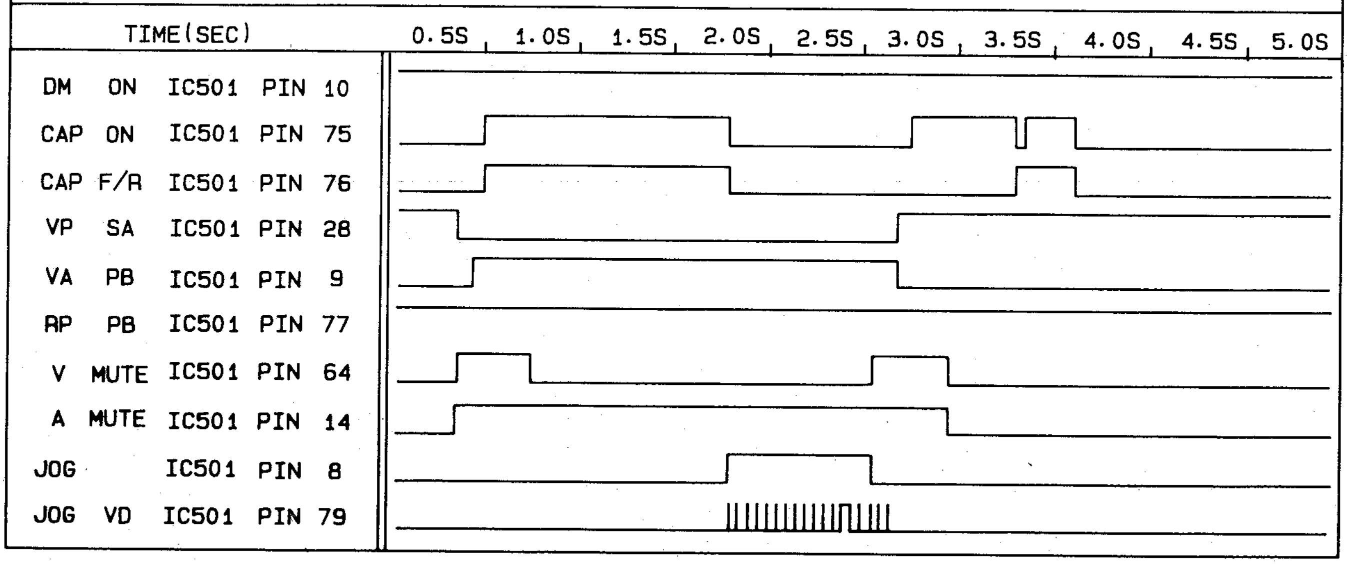
6-2-8. PLAY → RPS → PLAY MODE



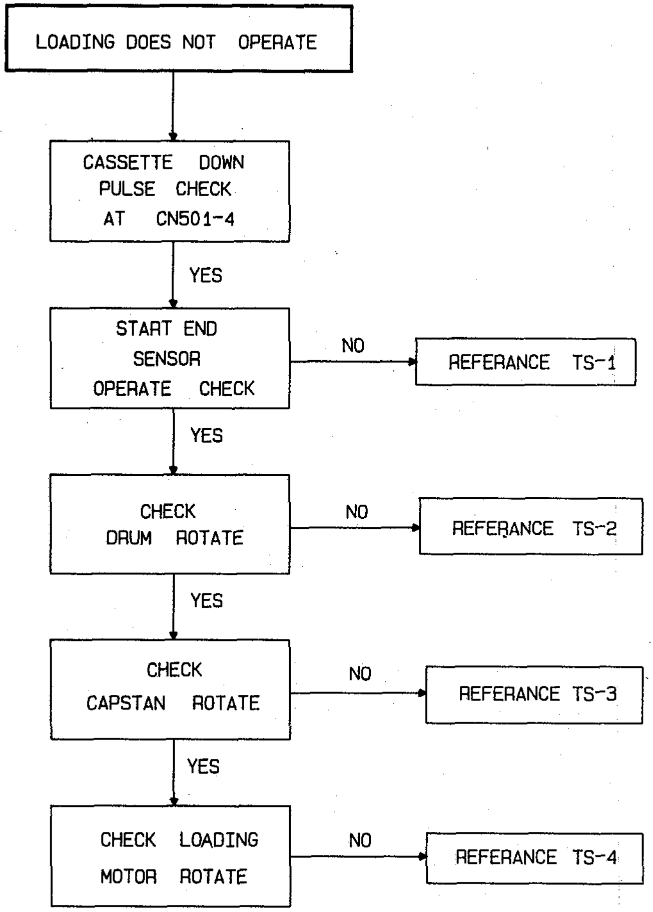
6-2-9. REC → PAUSE → REC MODE



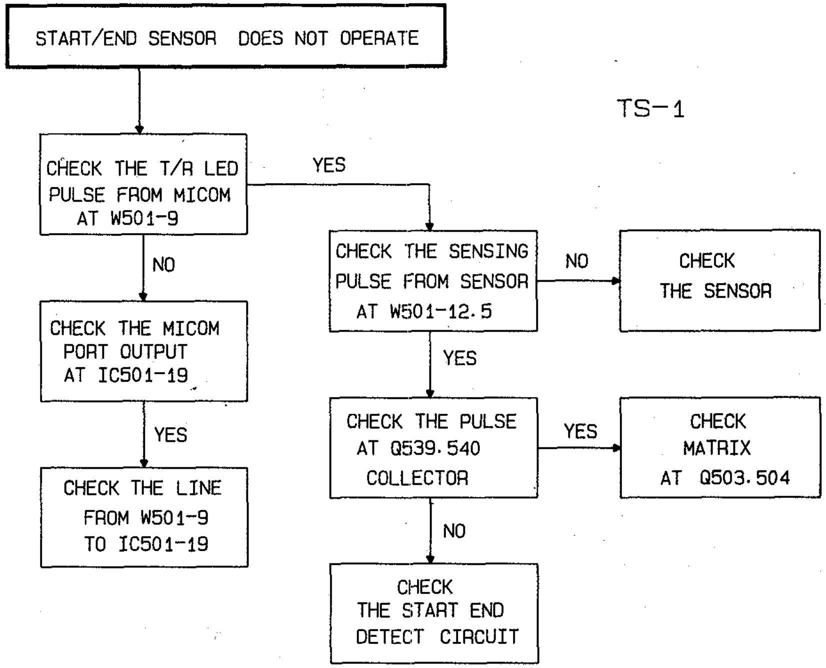
6-2-10. STBY → EDIT FWD → STBY MODE



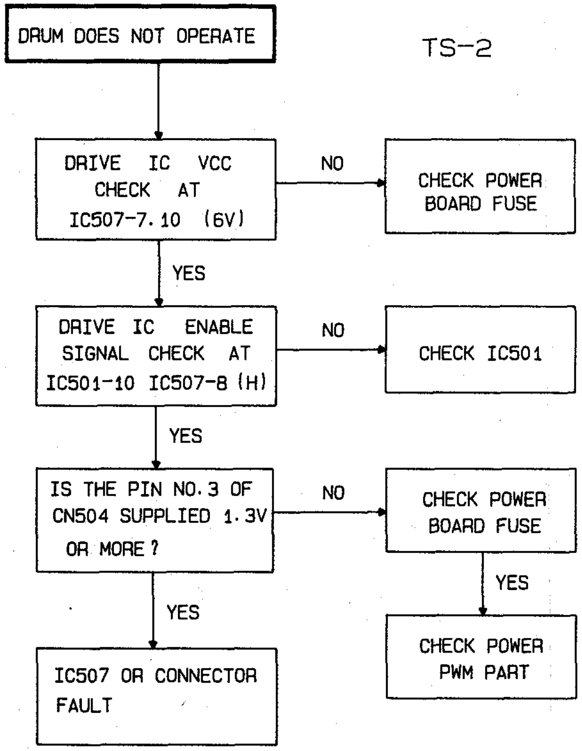
6-3-1.


LOADING DOES NOT OPERATE
CASSETTE DOWN PULSE CHECK AT CN501-4
YES
START END SENSOR OPERATE CHECK
NO
REFERANCE TS-1
YES
CHECK DRUM ROTATE
NO
REFERANCE TS-2
YES
CHECK CAPSTAN ROTATE
NO
REFERANCE TS-3
YES
CHECK LOADING MOTOR ROTATE
NO
REFERANCE TS-4

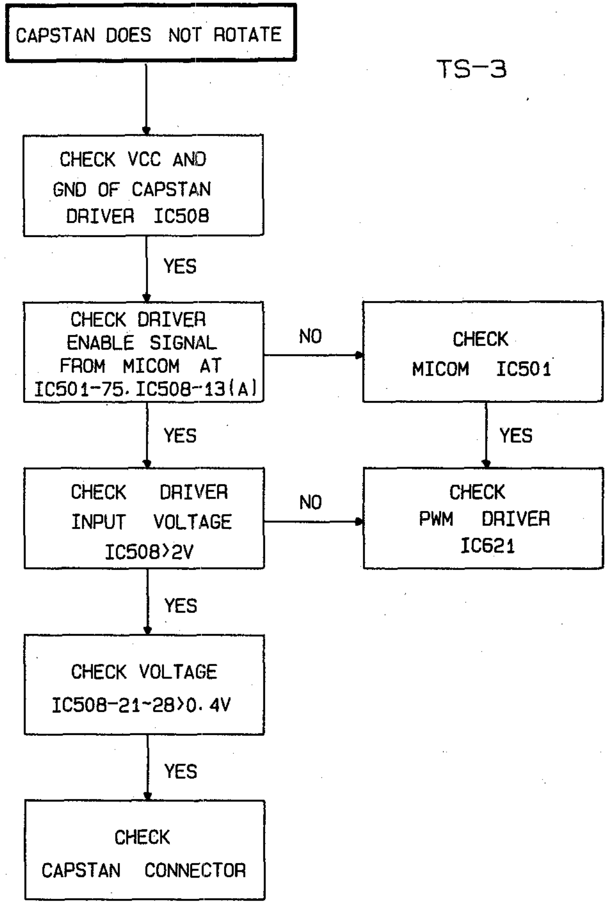
6-3-2.


START/END SENSOR DOES NOT OPERATE
TS-1
CHECK THE T/R LED PULSE FROM MICOM AT W501-9
YES
NO
CHECK THE MICOM PORT OUTPUT AT IC501-19
YES
CHECK THE LINE FROM W501-9 TO IC501-19
CHECK THE SENSING PULSE FROM SENSOR AT W501-12.5
NO
CHECK THE SENSOR
YES
CHECK THE PULSE AT Q539.540 COLLECTOR
YES
CHECK MATRIX AT Q503.504
NO
CHECK THE START END DETECT CIRCUIT

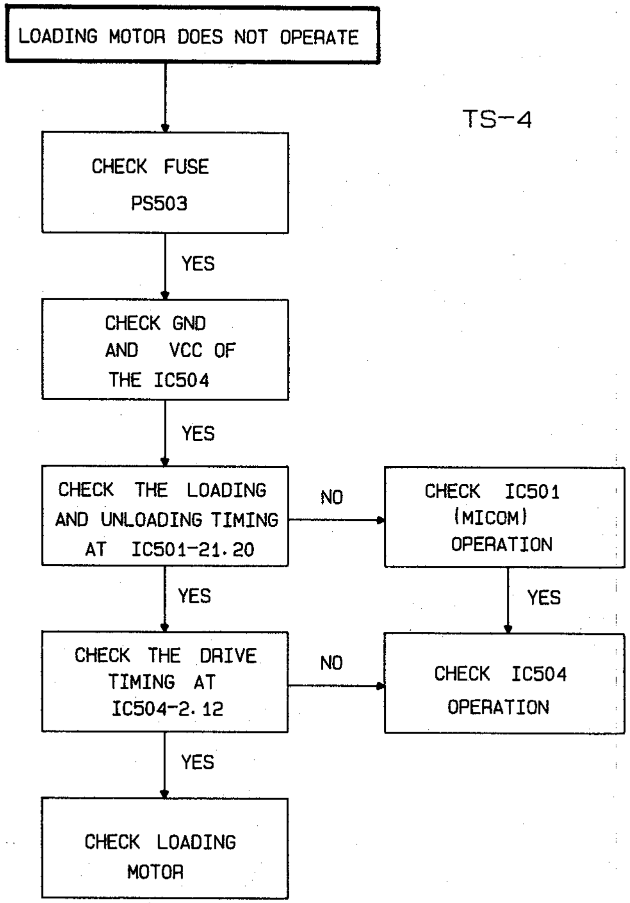
6-3-3.


DRUM DOES NOT OPERATE
TS-2
DRIVE IC VCC CHECK AT IC507-7.10 (6V)
NO
CHECK POWER BOARD FUSE
YES
DRIVE IC ENABLE SIGNAL CHECK AT IC501-10 IC507-8 (H)
NO
CHECK IC501
YES
IS THE PIN NO.3 OF CN504 SUPPLIED 1.3V OR MORE ?
NO
CHECK POWER BOARD FUSE
YES
CHECK POWER PWM PART
YES
IC507 OR CONNECTOR FAULT

6-3-4.

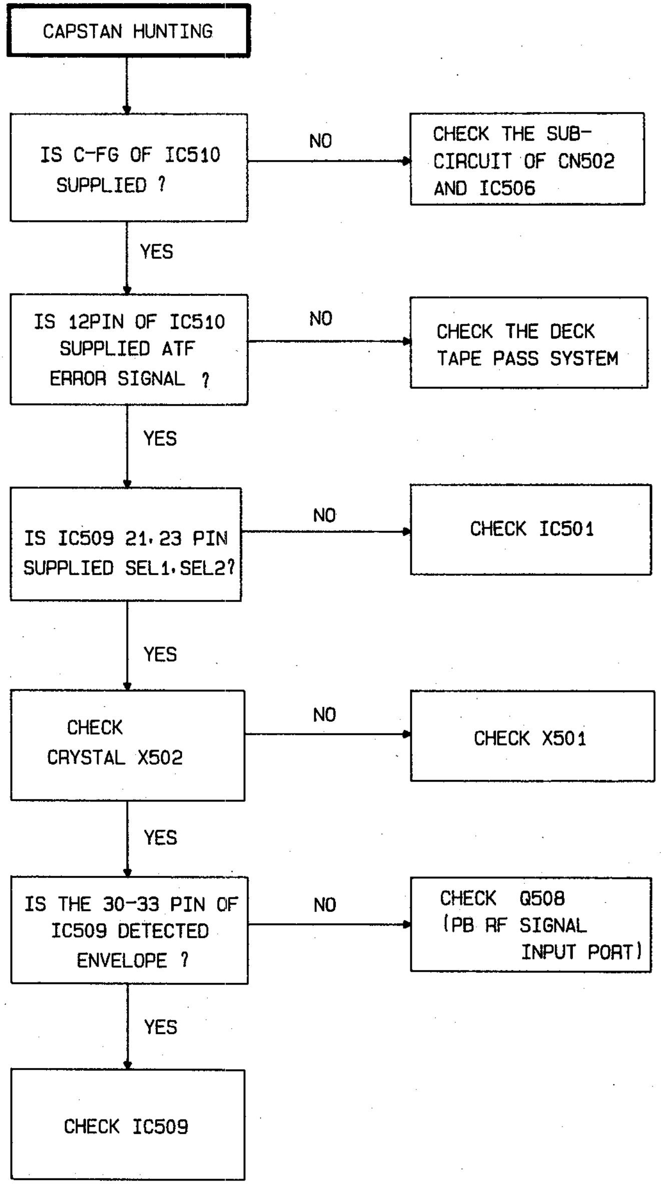

CAPSTAN DOES NOT ROTATE
TS-3
CHECK VCC AND GND OF CAPSTAN DRIVER IC508
YES
CHECK DRIVER ENABLE SIGNAL FROM MICOM AT IC501-75, IC508-13(A)
NO
CHECK MICOM IC501
YES
CHECK DRIVER INPUT VOLTAGE IC508>2V
YES
NO
CHECK PWM DRIVER IC621
YES
CHECK VOLTAGE IC508-21~28>0.4V
YES
CHECK CAPSTAN CONNECTOR

6-3-5.

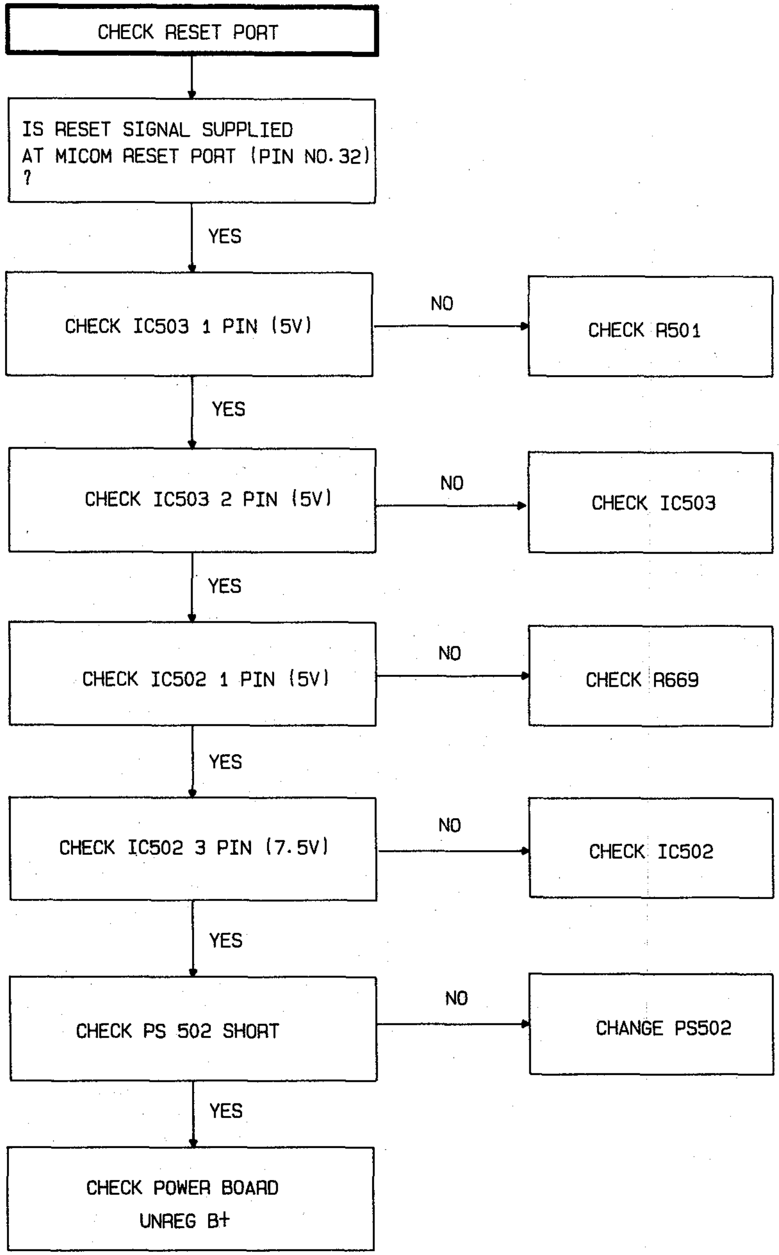

LOADING MOTOR DOES NOT OPERATE
CHECK FUSE PS503
YES
CHECK GND AND VCC OF THE IC504
YES
CHECK THE LOADING AND UNLOADING TIMING AT IC501-21.20
NO
CHECK IC501 (MICOM) OPERATION
YES
YES
CHECK THE DRIVE TIMING AT IC504-2.12
NO
CHECK IC504 OPERATION
YES
CHECK LOADING MOTOR

TS-4

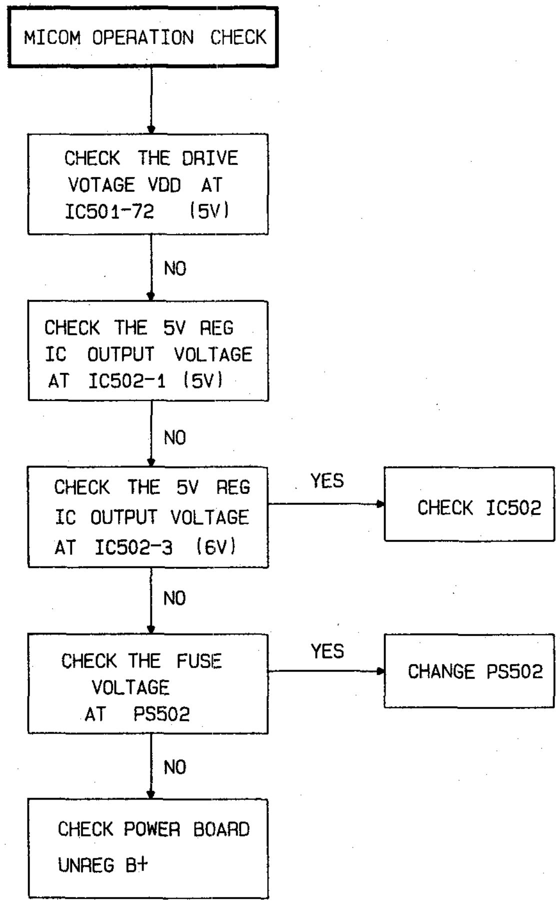
6-3-6.


CAPSTAN HUNTING
IS C-FG OF IC510 SUPPLIED ?
NO
CHECK THE SUB-CIRCUIT OF CN502 AND IC506
YES
IS 12PIN OF IC510 SUPPLIED ATF ERROR SIGNAL ?
NO
CHECK THE DECK TAPE PASS SYSTEM
YES
IS IC509 21.23 PIN SUPPLIED SEL1.SEL2?
NO
CHECK IC501
YES
CHECK CRYSTAL X502
NO
CHECK X501
YES
IS THE 30-33 PIN OF IC509 DETECTED ENVELOPE ?
NO
CHECK Q508 (PB RF SIGNAL INPUT PORT)
YES
CHECK IC509

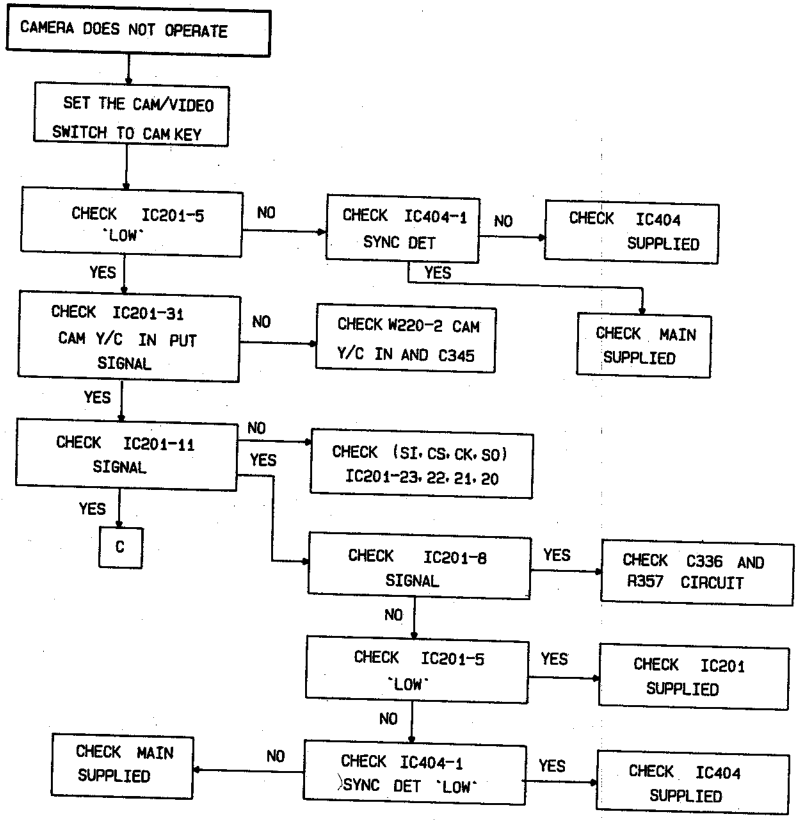
6-3-7.

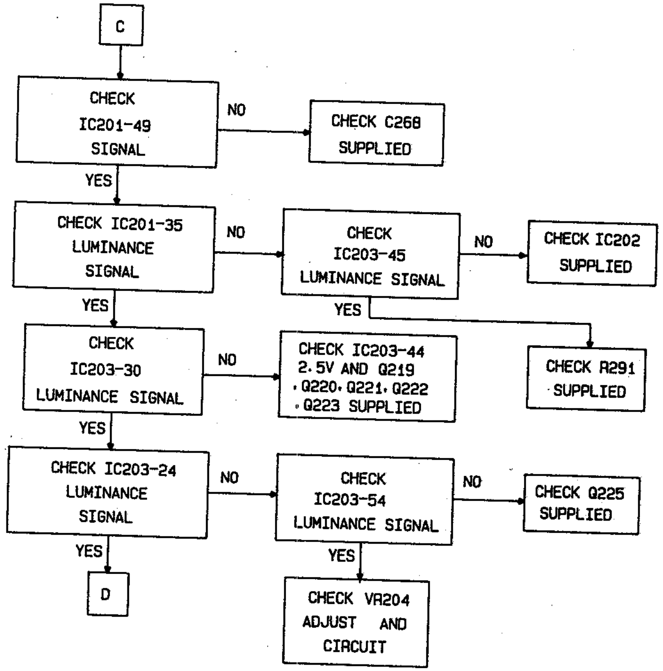

CHECK RESET PORT
IS RESET SIGNAL SUPPLIED AT MICOM RESET PORT (PIN NO. 32) ?
YES
CHECK IC503 1 PIN (5V)
NO
CHECK R501
YES
CHECK IC503 2 PIN (5V)
NO
CHECK IC503
YES
CHECK IC502 1 PIN (5V)
NO
CHECK R669
YES
CHECK IC502 3 PIN (7.5V)
NO
CHECK IC502
YES
CHECK PS 502 SHORT
NO
CHANGE PS502
YES
CHECK POWER BOARD UNREG B+

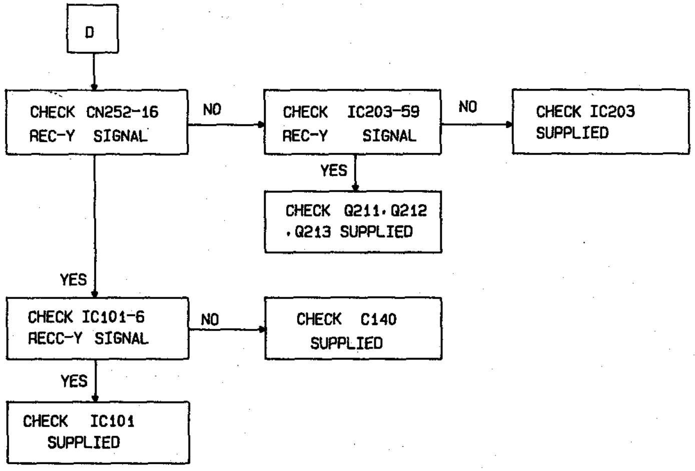
6-3-8.


MICOM OPERATION CHECK
CHECK THE DRIVE VOTAGE VDD AT IC501-72 (5V)
NO
CHECK THE 5V REG IC OUTPUT VOLTAGE AT IC502-1 (5V)
NO
CHECK THE 5V REG IC OUTPUT VOLTAGE AT IC502-3 (6V)
YES
CHECK IC502
NO
CHECK THE FUSE VOLTAGE AT PS502
YES
CHANGE PS502
NO
CHECK POWER BOARD UNREG B+

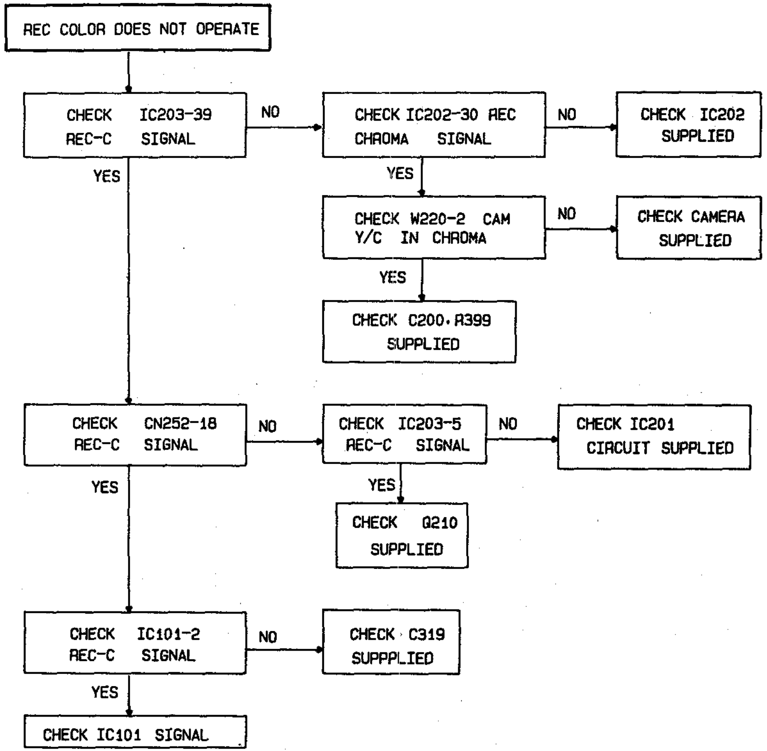
6-3-9.


CAMERA DOES NOT OPERATE
SET THE CAM/VIDEO SWITCH TO CAM KEY
CHECK IC201-5 'LOW'
NO
CHECK IC404-1 SYNC DET
NO
CHECK IC404 SUPPLIED
YES
CHECK MAIN SUPPLIED
YES
CHECK IC201-31 CAM Y/C IN PUT SIGNAL
NO
CHECK W220-2 CAM Y/C IN AND C345
YES
CHECK IC201-11 SIGNAL
NO
CHECK (SI, CS, CK, SO) IC201-23, 22, 21, 20
YES
YES
C
CHECK IC201-8 SIGNAL
YES
CHECK C336 AND R357 CIRCUIT
NO
CHECK IC201-5 'LOW'
YES
CHECK IC201 SUPPLIED
NO
CHECK IC404-1 SYNC DET 'LOW'
YES
CHECK IC404 SUPPLIED
NO
CHECK MAIN SUPPLIED

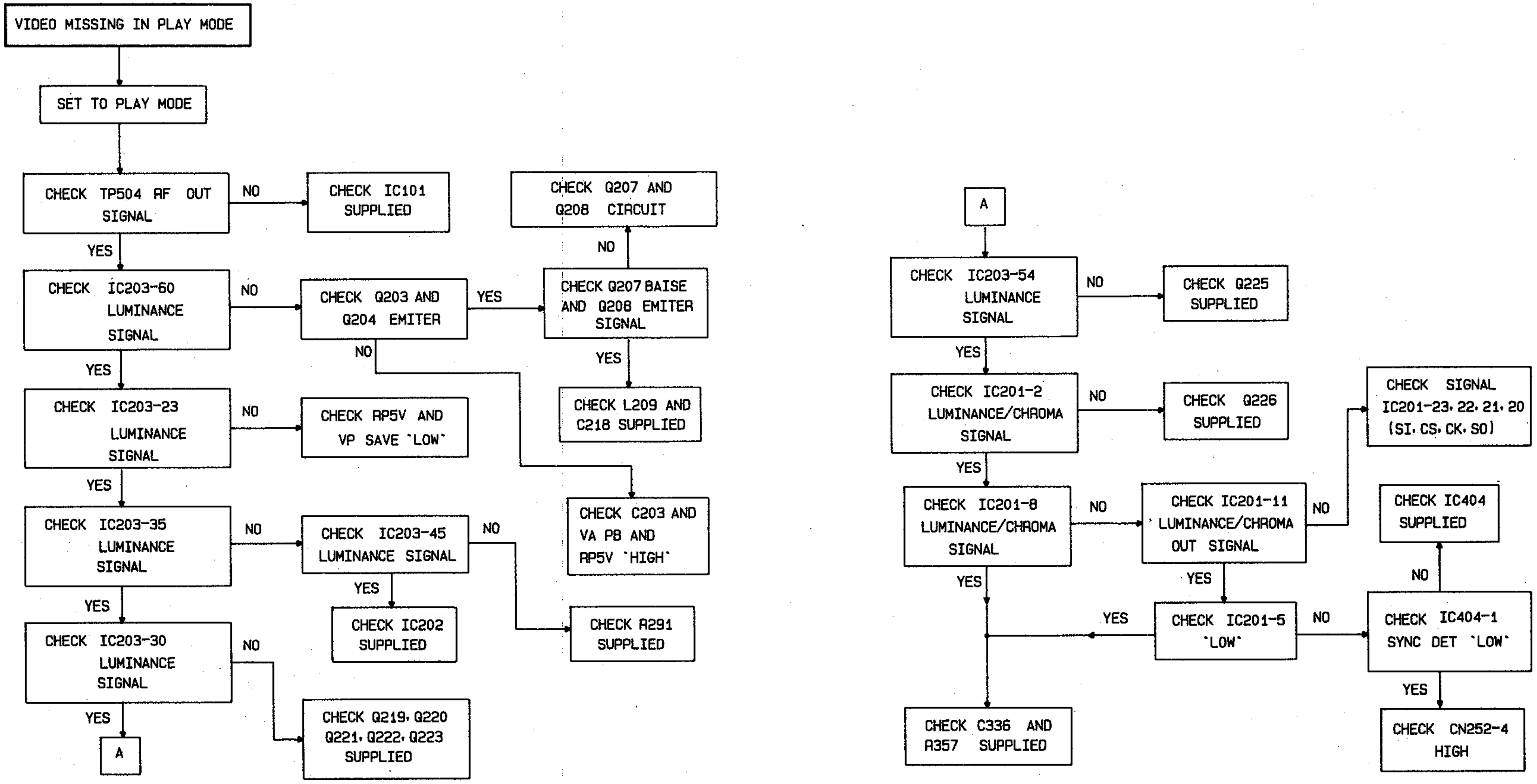

C
CHECK IC201-49 SIGNAL
NO
CHECK C268 SUPPLIED
YES
CHECK IC201-35 LUMINANCE SIGNAL
NO
CHECK IC203-45 LUMINANCE SIGNAL
NO
CHECK IC202 SUPPLIED
YES
CHECK R291 SUPPLIED
YES
CHECK IC203-30 LUMINANCE SIGNAL
NO
CHECK IC203-44 2.5V AND Q219 , Q220, Q221, Q222 , Q223 SUPPLIED
YES
CHECK IC203-24 LUMINANCE SIGNAL
NO
CHECK IC203-54 LUMINANCE SIGNAL
NO
CHECK Q225 SUPPLIED
YES
CHECK VR204 ADJUST AND CIRCUIT
YES
D


D
CHECK CN252-16 REC-Y SIGNAL
NO
CHECK IC203-59 REC-Y SIGNAL
NO
CHECK IC203 SUPPLIED
YES
CHECK Q211, Q212 , Q213 SUPPLIED
YES
CHECK IC101-6 RECC-Y SIGNAL
NO
CHECK C140 SUPPLIED
YES
CHECK IC101 SUPPLIED

6-3-10.

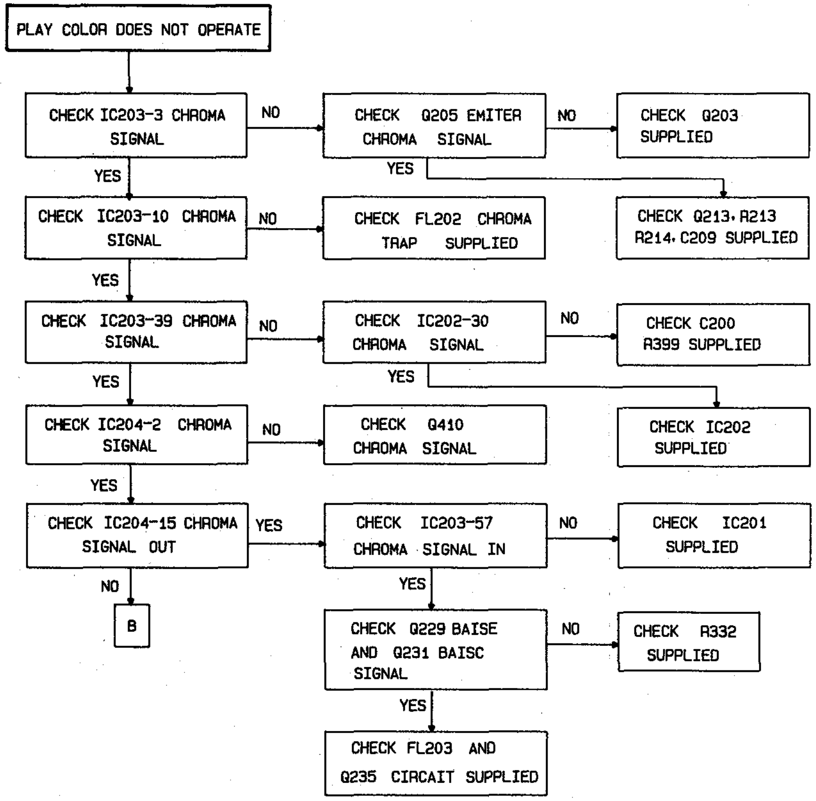

REC COLOR DOES NOT OPERATE
CHECK IC203-39 REC-C SIGNAL
NO
CHECK IC202-30 REC CHROMA SIGNAL
NO
CHECK IC202 SUPPLIED
YES
CHECK W220-2 CAM Y/C IN CHROMA
NO
CHECK CAMERA SUPPLIED
YES
CHECK C200, R399 SUPPLIED
YES
CHECK CN252-18 REC-C SIGNAL
NO
CHECK IC203-5 REC-C SIGNAL
NO
CHECK IC201 CIRCUIT SUPPLIED
YES
CHECK Q210 SUPPLIED
YES
CHECK IC101-2 REC-C SIGNAL
NO
CHECK C319 SUPPPLIED
YES
CHECK IC101 SIGNAL

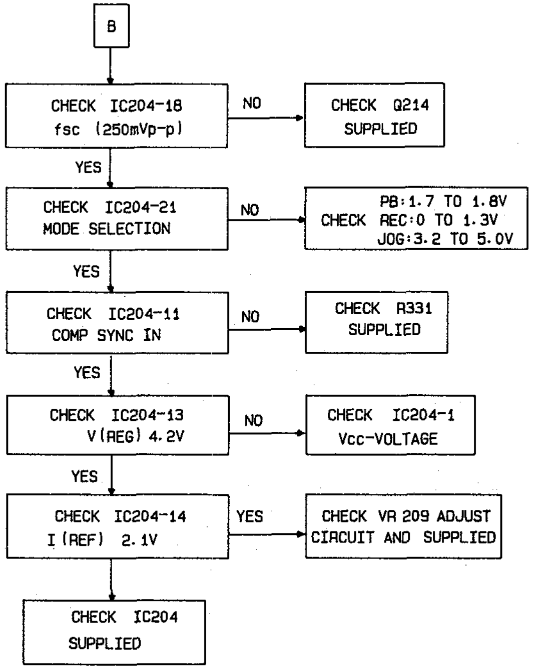
6-3-11.



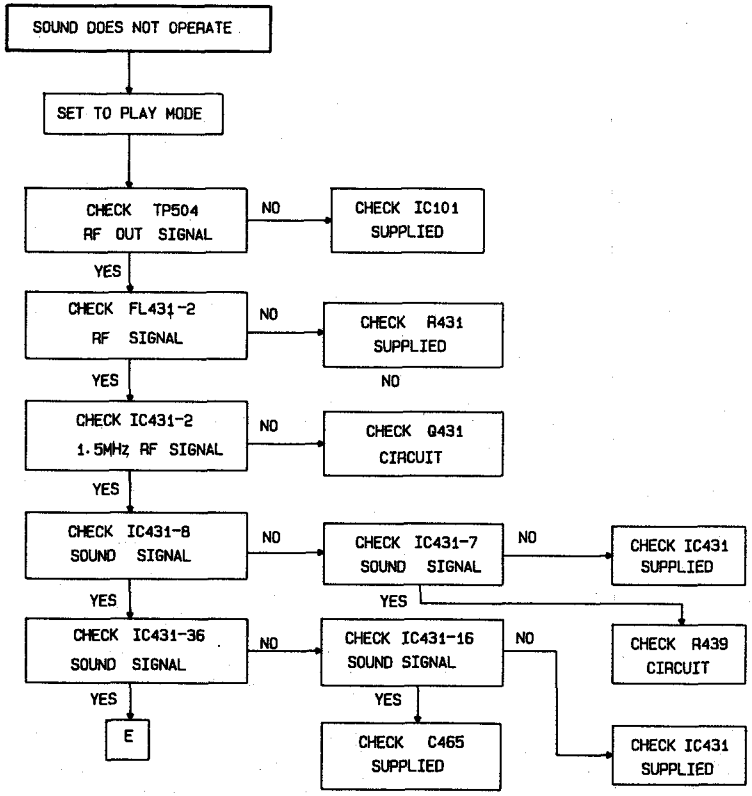
VIDEO MISSING IN PLAY MODE
SET TO PLAY MODE
CHECK TP504 RF OUT SIGNAL
NO
CHECK IC101 SUPPLIED
YES
CHECK IC203-60 LUMINANCE SIGNAL
NO
CHECK Q203 AND Q204 EMITER
YES
CHECK Q207 BAISE AND Q208 EMITER SIGNAL
NO
CHECK Q207 AND Q208 CIRCUIT
YES
CHECK L209 AND C218 SUPPLIED
NO
CHECK C203 AND VA PB AND RP5V `HIGH`
YES
CHECK IC203-23 LUMINANCE SIGNAL
NO
CHECK RP5V AND VP SAVE `LOW`
YES
CHECK IC203-35 LUMINANCE SIGNAL
NO
CHECK IC203-45 LUMINANCE SIGNAL
NO
CHECK R291 SUPPLIED
YES
CHECK IC202 SUPPLIED
YES
CHECK IC203-30 LUMINANCE SIGNAL
NO
CHECK Q219, Q220 Q221, Q222, Q223 SUPPLIED
YES
A
A
CHECK IC203-54 LUMINANCE SIGNAL
NO
CHECK Q225 SUPPLIED
YES
CHECK IC201-2 LUMINANCE/CHROMA SIGNAL
NO
CHECK Q226 SUPPLIED
YES
CHECK IC201-8 LUMINANCE/CHROMA SIGNAL
NO
CHECK IC201-11 LUMINANCE/CHROMA OUT SIGNAL
NO
CHECK SIGNAL IC201-23, 22, 21, 20 (SI, CS, CK, SO)
YES
CHECK IC201-5 `LOW`
YES
NO
CHECK IC404-1 SYNC DET `LOW`
NO
CHECK IC404 SUPPLIED
YES
CHECK CN252-4 HIGH
YES
CHECK C336 AND R357 SUPPLIED

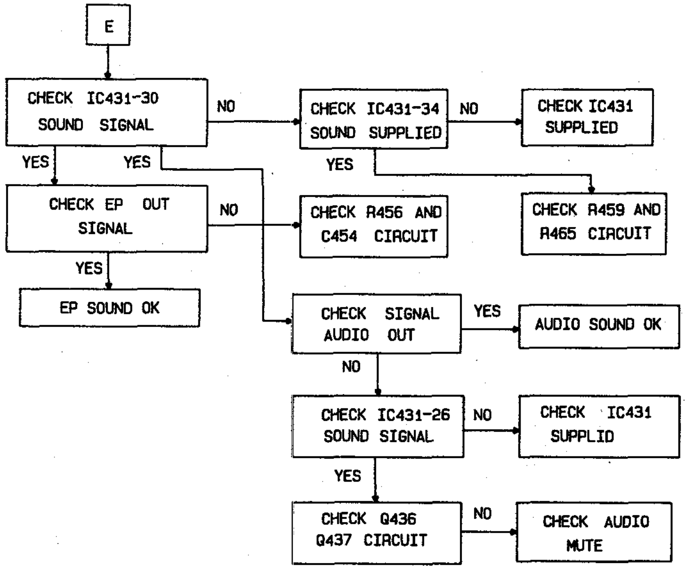
6-3-12.


PLAY COLOR DOES NOT OPERATE
CHECK IC203-3 CHROMA SIGNAL
NO
CHECK Q205 EMITER CHROMA SIGNAL
NO
CHECK Q203 SUPPLIED
YES
YES
CHECK Q213, R213 R214, C209 SUPPLIED
CHECK IC203-10 CHROMA SIGNAL
NO
CHECK FL202 CHROMA TRAP SUPPLIED
YES
CHECK IC203-39 CHROMA SIGNAL
NO
CHECK IC202-30 CHROMA SIGNAL
NO
CHECK C200 R399 SUPPLIED
YES
YES
CHECK IC202 SUPPLIED
CHECK IC204-2 CHROMA SIGNAL
NO
CHECK Q410 CHROMA SIGNAL
YES
CHECK IC204-15 CHROMA SIGNAL OUT
YES
CHECK IC203-57 CHROMA SIGNAL IN
NO
CHECK IC201 SUPPLIED
NO
B
YES
CHECK Q229 BAISE AND Q231 BAISC SIGNAL
NO
CHECK R332 SUPPLIED
YES
CHECK FL203 AND Q235 CIRCAIT SUPPLIED

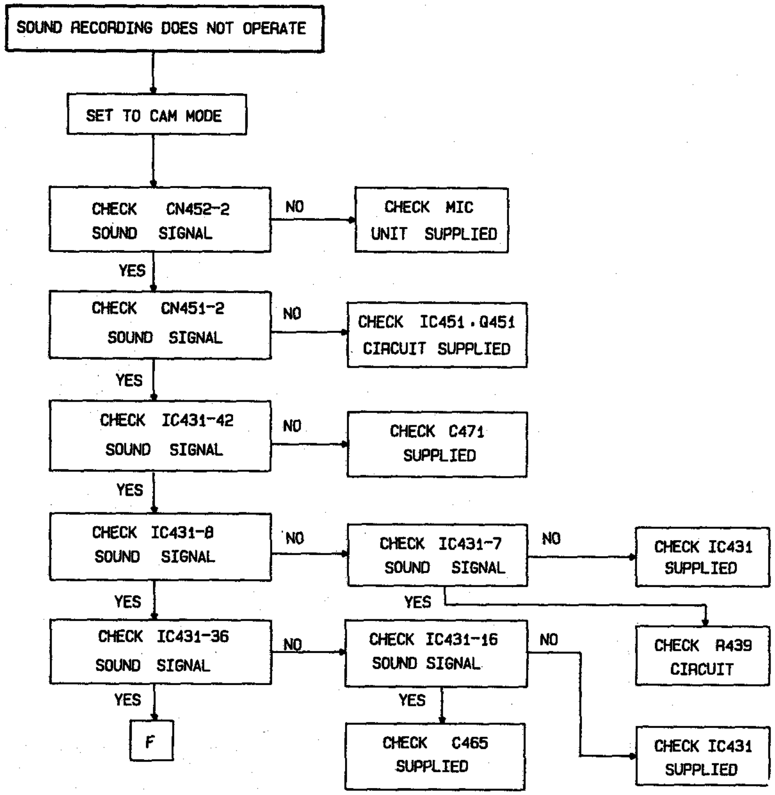

B
CHECK IC204-18 fsc (250mVp-p)
NO
CHECK Q214 SUPPLIED
YES
CHECK IC204-21 MODE SELECTION
NO
CHECK PB:1.7 TO 1.8V REC:0 TO 1.3V JOG:3.2 TO 5.0V
YES
CHECK IC204-11 COMP SYNC IN
NO
CHECK R331 SUPPLIED
YES
CHECK IC204-13 V(REG) 4.2V
NO
CHECK IC204-1 Vcc-VOLTAGE
YES
CHECK IC204-14 I(REF) 2.1V
YES
CHECK VR 209 ADJUST CIRCUIT AND SUPPLIED
CHECK IC204 SUPPLIED

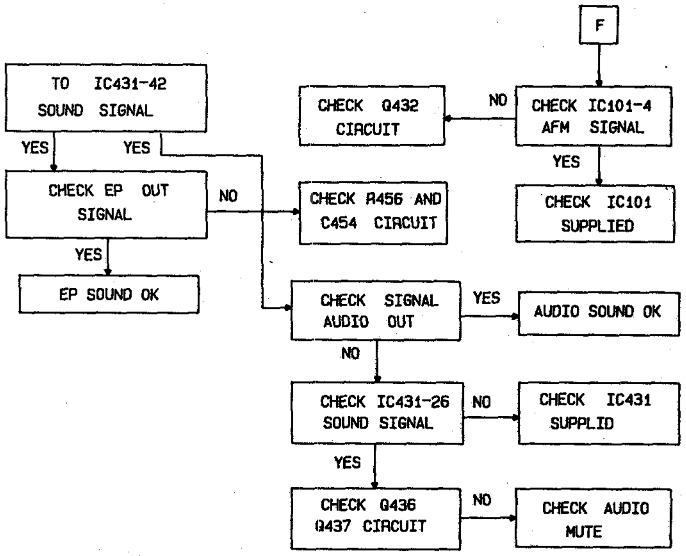
6-3-13.


SOUND DOES NOT OPERATE
SET TO PLAY MODE
CHECK TP504 RF OUT SIGNAL
NO
CHECK IC101 SUPPLIED
YES
CHECK FL431-2 RF SIGNAL
NO
CHECK R431 SUPPLIED
NO
YES
CHECK IC431-2 1.5MHz RF SIGNAL
NO
CHECK Q431 CIRCUIT
YES
CHECK IC431-8 SOUND SIGNAL
NO
CHECK IC431-7 SOUND SIGNAL
NO
CHECK IC431 SUPPLIED
YES
YES
CHECK R439 CIRCUIT
CHECK IC431-36 SOUND SIGNAL
NO
CHECK IC431-16 SOUND SIGNAL
NO
YES
E
YES
CHECK C465 SUPPLIED
CHECK IC431 SUPPLIED

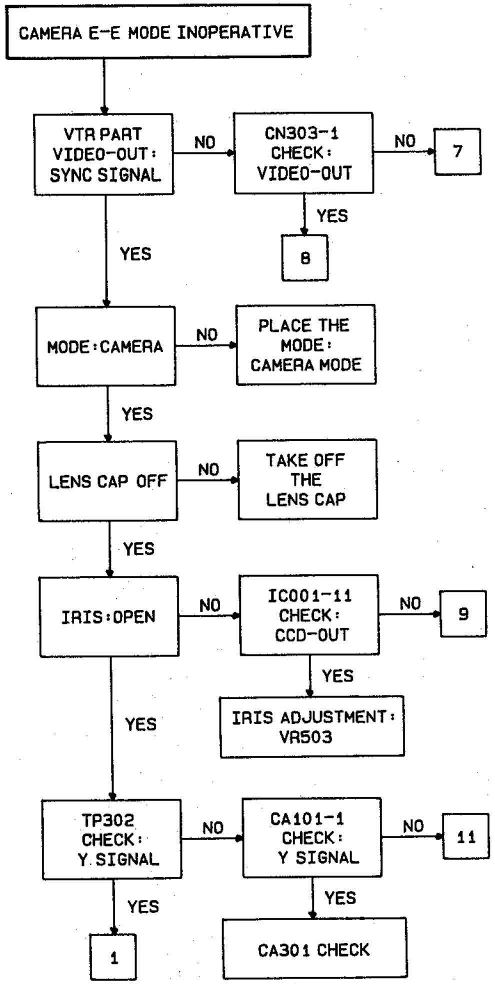

E
CHECK IC431-30 SOUND SIGNAL
NO
CHECK IC431-34 SOUND SUPPLIED
NO
CHECK IC431 SUPPLIED
YES
YES
YES
CHECK EP OUT SIGNAL
NO
CHECK R456 AND C454 CIRCUIT
CHECK R459 AND R465 CIRCUIT
YES
EP SOUND OK
CHECK SIGNAL AUDIO OUT
YES
AUDIO SOUND OK
NO
CHECK IC431-26 SOUND SIGNAL
NO
CHECK IC431 SUPPLID
YES
CHECK Q436 Q437 CIRCUIT
NO
CHECK AUDIO MUTE

6-3-14.

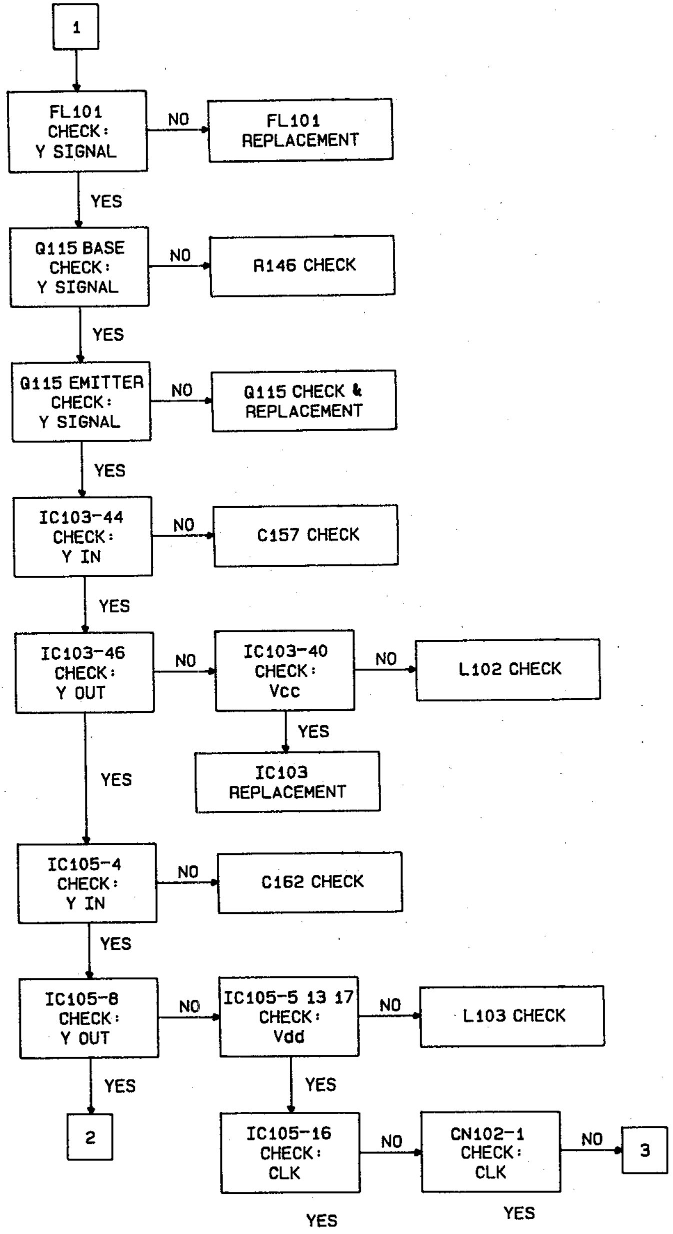

SOUND RECORDING DOES NOT OPERATE
SET TO CAM MODE
CHECK CN452-2 SOUND SIGNAL
NO
CHECK MIC UNIT SUPPLIED
YES
CHECK CN451-2 SOUND SIGNAL
NO
CHECK IC451 · Q451 CIRCUIT SUPPLIED
YES
CHECK IC431-42 SOUND SIGNAL
NO
CHECK C471 SUPPLIED
YES
CHECK IC431-8 SOUND SIGNAL
NO
CHECK IC431-7 SOUND SIGNAL
NO
CHECK IC431 SUPPLIED
YES
CHECK R439 CIRCUIT
YES
CHECK IC431-36 SOUND SIGNAL
NO
CHECK IC431-16 SOUND SIGNAL
NO
CHECK IC431 SUPPLIED
YES
CHECK C465 SUPPLIED
YES
F


F
CHECK IC101-4 AFM SIGNAL
NO
CHECK Q432 CIRCUIT
YES
CHECK IC101 SUPPLIED
TO IC431-42 SOUND SIGNAL
YES
YES
CHECK EP OUT SIGNAL
NO
CHECK R456 AND C454 CIRCUIT
YES
EP SOUND OK
CHECK SIGNAL AUDIO OUT
YES
AUDIO SOUND OK
NO
CHECK IC431-26 SOUND SIGNAL
NO
CHECK IC431 SUPPLID
YES
CHECK Q436 Q437 CIRCUIT
NO
CHECK AUDIO MUTE

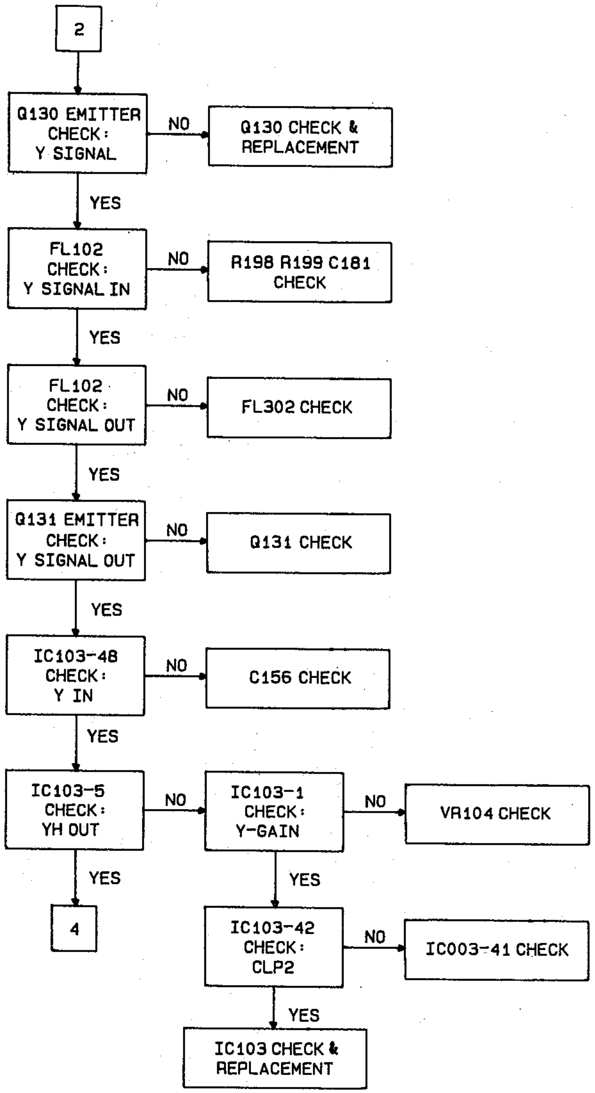
6-3-15.

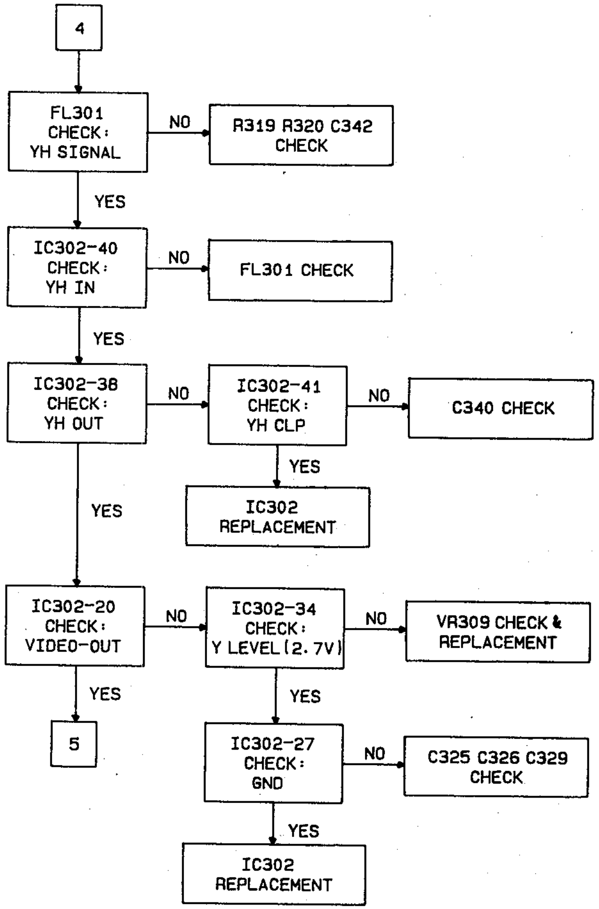


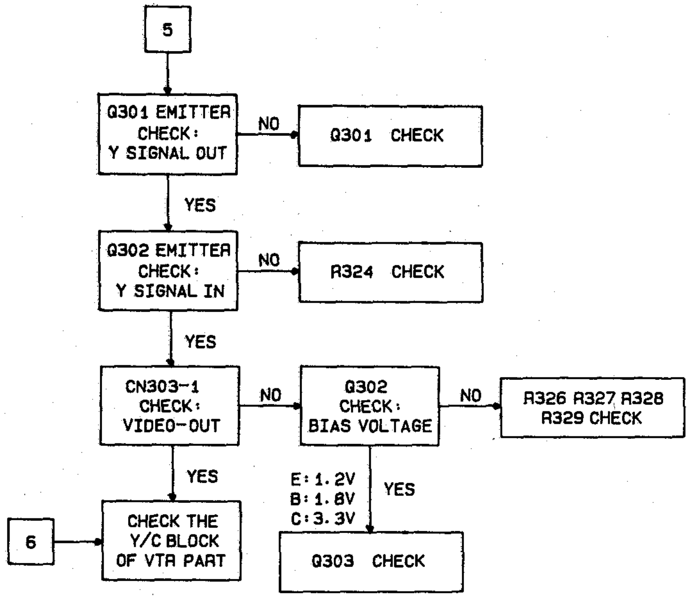
CAMERA E-E MODE INOPERATIVE
VTR PART VIDEO-OUT: SYNC SIGNAL
NO
CN303-1 CHECK: VIDEO-OUT
NO
7
YES
8
YES
MODE: CAMERA
NO
PLACE THE MODE: CAMERA MODE
YES
LENS CAP OFF
NO
TAKE OFF THE LENS CAP
YES
IRIS: OPEN
NO
IC001-11 CHECK: CCD-OUT
NO
9
YES
IRIS ADJUSTMENT: VR503
YES
TP302 CHECK: Y SIGNAL
NO
CA101-1 CHECK: Y SIGNAL
NO
11
YES
CA301 CHECK
YES
1

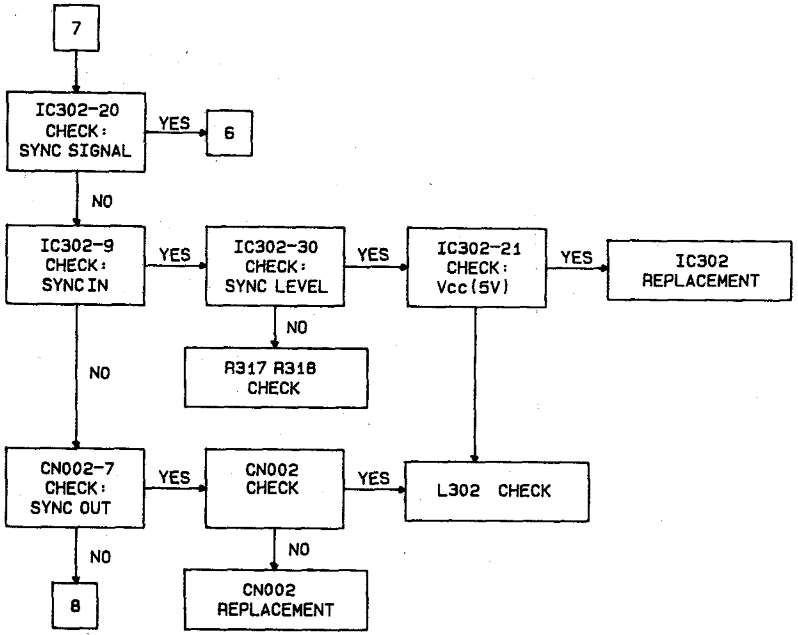


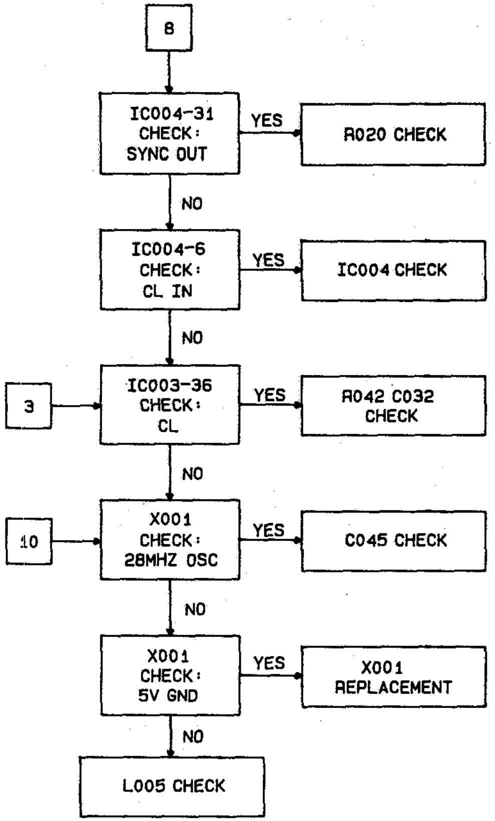
1
FL101 CHECK: Y SIGNAL
NO
FL101 REPLACEMENT
YES
Q115 BASE CHECK: Y SIGNAL
NO
R146 CHECK
YES
Q115 EMITTER CHECK: Y SIGNAL
NO
Q115 CHECK & REPLACEMENT
YES
IC103-44 CHECK: Y IN
NO
C157 CHECK
YES
IC103-46 CHECK: Y OUT
NO
IC103-40 CHECK: Vcc
NO
L102 CHECK
YES
IC103 REPLACEMENT
YES
IC105-4 CHECK: Y IN
NO
C162 CHECK
YES
IC105-8 CHECK: Y OUT
NO
IC105-5 13 17 CHECK: Vdd
NO
L103 CHECK
YES
2
YES
IC105-16 CHECK: CLK
NO
CN102-1 CHECK: CLK
NO
3
YES
YES

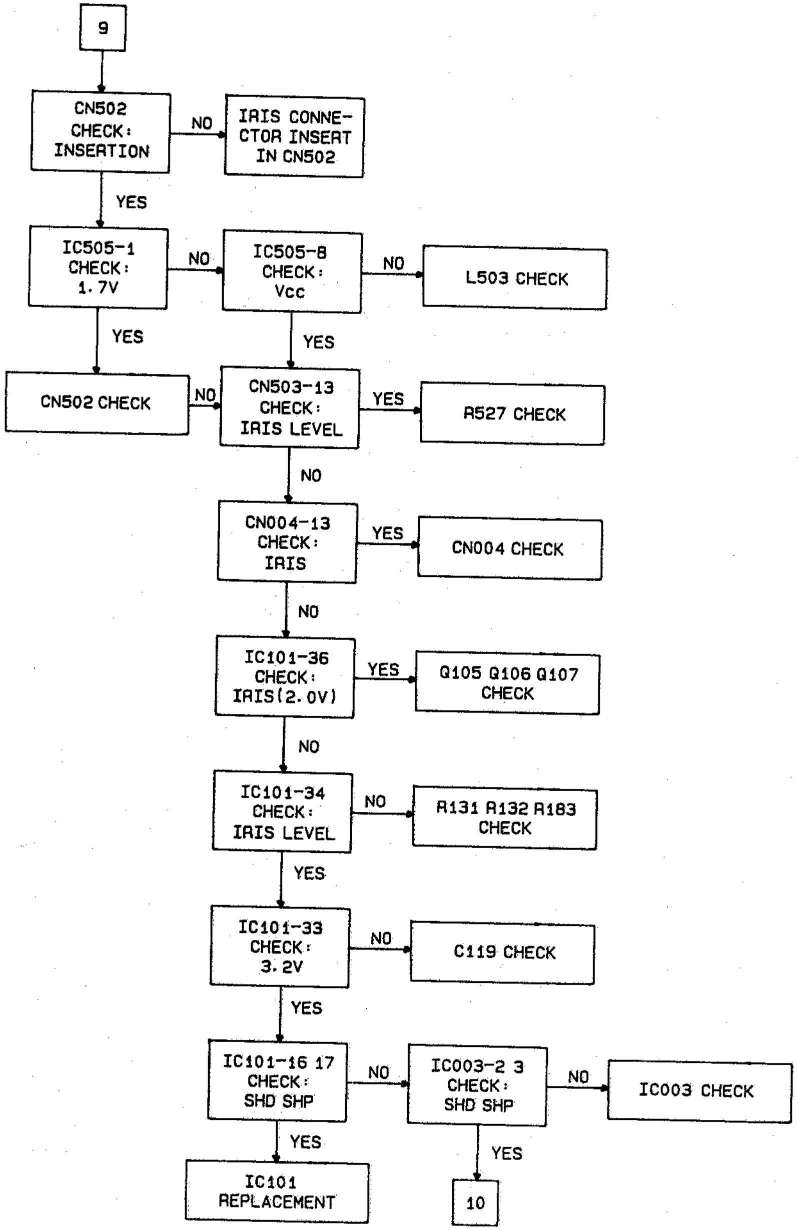

2
Q130 EMITTER CHECK: Y SIGNAL
NO
Q130 CHECK & REPLACEMENT
YES
FL102 CHECK: Y SIGNAL IN
NO
R198 R199 C181 CHECK
YES
FL102 CHECK: Y SIGNAL OUT
NO
FL302 CHECK
YES
Q131 EMITTER CHECK: Y SIGNAL OUT
NO
Q131 CHECK
YES
IC103-48 CHECK: Y IN
NO
C156 CHECK
YES
IC103-5 CHECK: YH OUT
NO
IC103-1 CHECK: Y-GAIN
NO
VR104 CHECK
YES
4
YES
IC103-42 CHECK: CLP2
NO
IC003-41 CHECK
YES
IC103 CHECK & REPLACEMENT

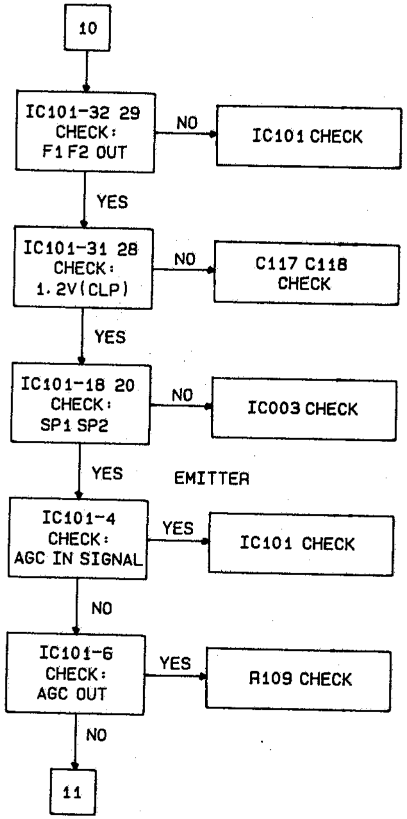

4
FL301 CHECK: YH SIGNAL
NO
R319 R320 C342 CHECK
YES
IC302-40 CHECK: YH IN
NO
FL301 CHECK
YES
IC302-38 CHECK: YH OUT
NO
IC302-41 CHECK: YH CLP
NO
C340 CHECK
YES
IC302 REPLACEMENT
YES
IC302-20 CHECK: VIDEO-OUT
NO
IC302-34 CHECK: Y LEVEL(2.7V)
NO
VR309 CHECK & REPLACEMENT
YES
5
YES
IC302-27 CHECK: GND
NO
C325 C326 C329 CHECK
YES
IC302 REPLACEMENT

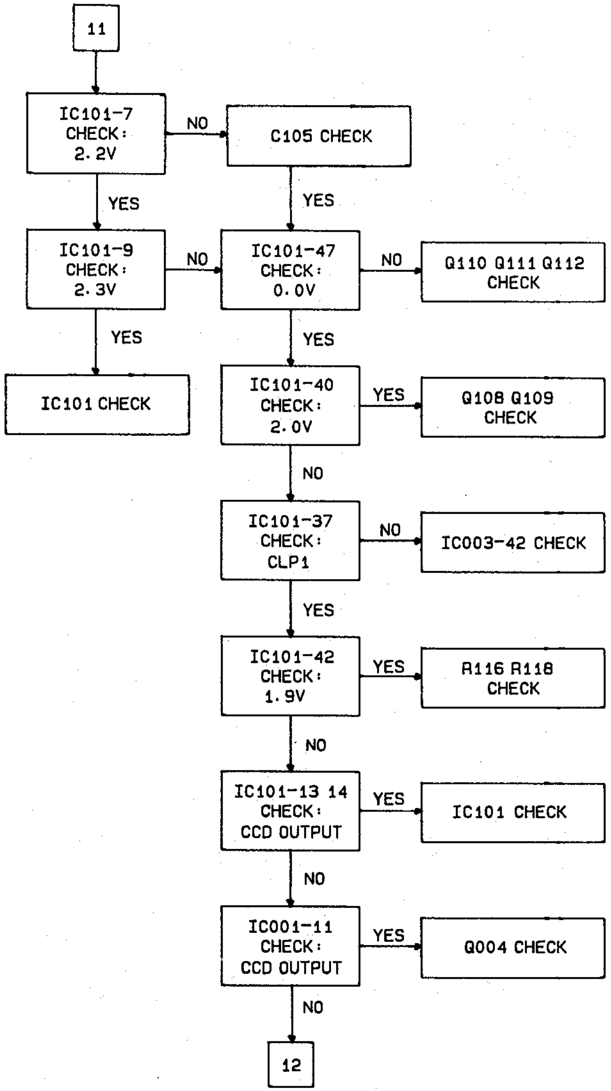

5
Q301 EMITTER CHECK: Y SIGNAL OUT
NO
Q301 CHECK
YES
Q302 EMITTER CHECK: Y SIGNAL IN
NO
R324 CHECK
YES
CN303-1 CHECK: VIDEO-OUT
NO
Q302 CHECK: BIAS VOLTAGE
NO
R326 R327 R328 R329 CHECK
YES
E: 1.2V
B: 1.8V
C: 3.3V
YES
Q303 CHECK
6
CHECK THE Y/C BLOCK OF VTR PART

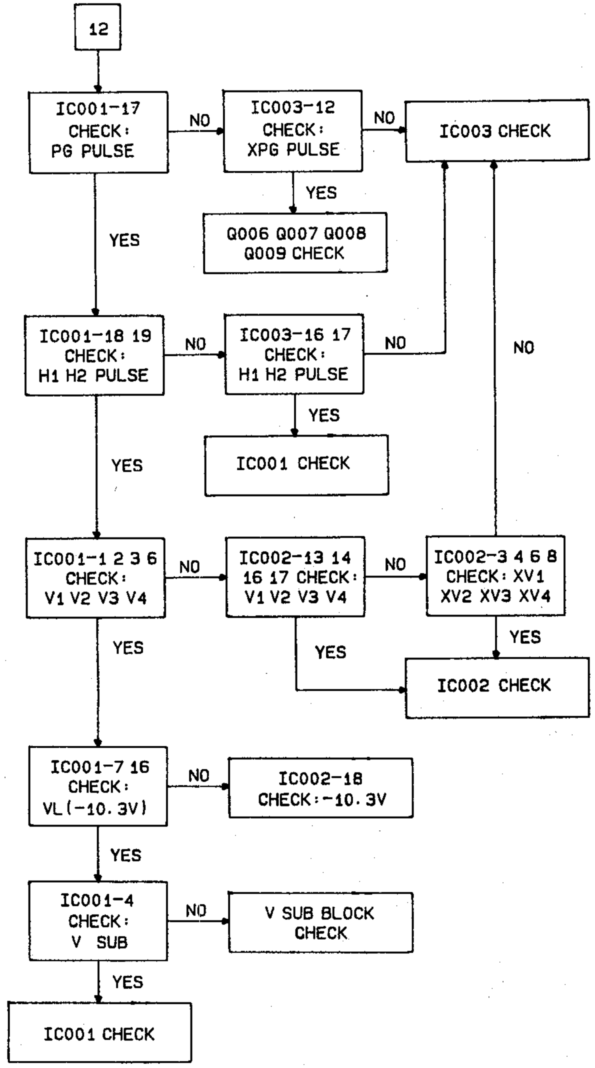

7
IC302-20 CHECK: SYNC SIGNAL
YES
6
NO
IC302-9 CHECK: SYNC IN
YES
IC302-30 CHECK: SYNC LEVEL
YES
IC302-21 CHECK: Vcc(5V)
YES
IC302 REPLACEMENT
NO
R317 R318 CHECK
NO
CN002-7 CHECK: SYNC OUT
YES
CN002 CHECK
YES
L302 CHECK
NO
CN002 REPLACEMENT
NO
8


8
IC004-31 CHECK: SYNC OUT
YES
R020 CHECK
NO
IC004-6 CHECK: CL IN
YES
IC004 CHECK
NO
3
IC003-36 CHECK: CL
YES
R042 C032 CHECK
NO
10
X001 CHECK: 28MHZ OSC
YES
C045 CHECK
NO
X001 CHECK: 5V GND
YES
X001 REPLACEMENT
NO
L005 CHECK

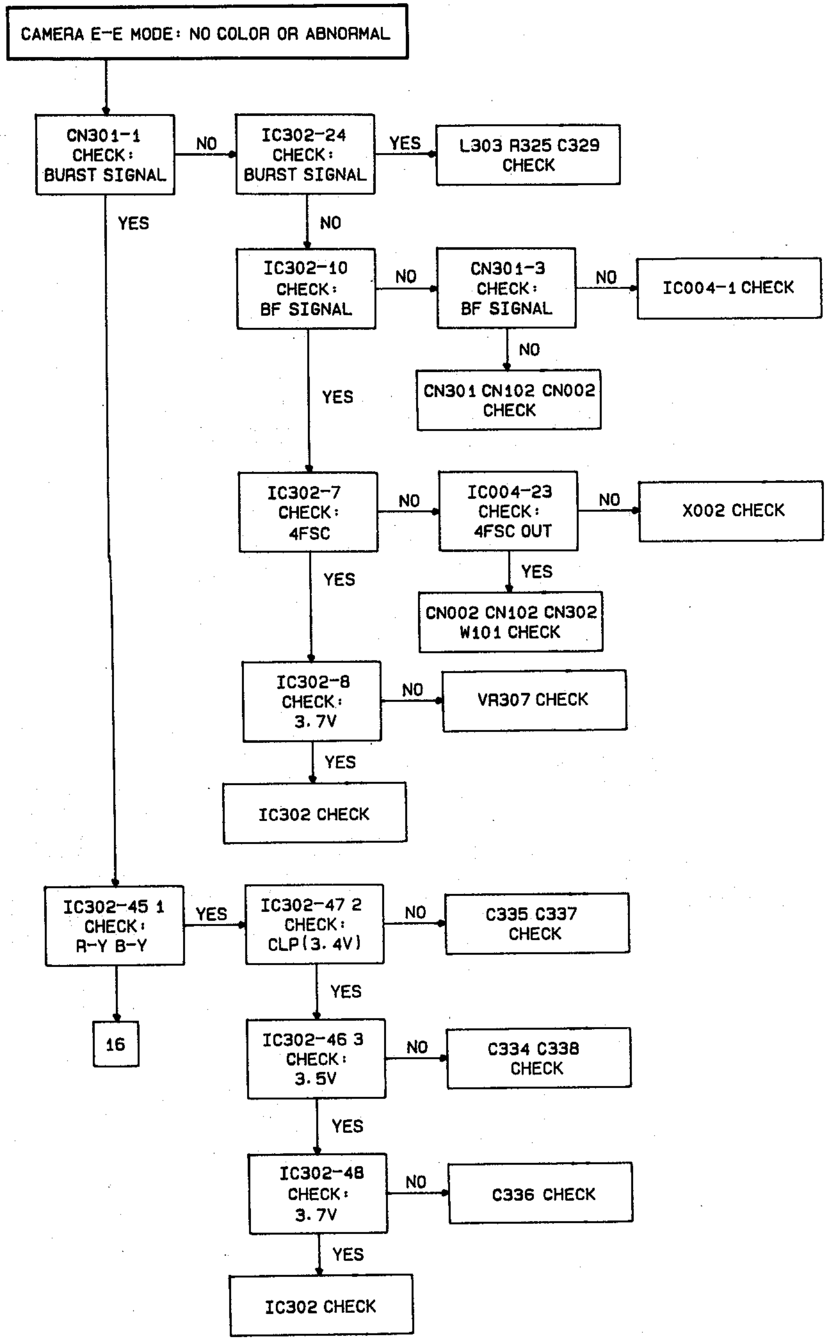

9
CN502 CHECK: INSERTION
NO
IRIS CONNECTOR INSERT IN CN502
YES
IC505-1 CHECK: 1.7V
NO
IC505-8 CHECK: Vcc
NO
L503 CHECK
YES
YES
CN502 CHECK
NO
CN503-13 CHECK: IRIS LEVEL
YES
R527 CHECK
NO
CN004-13 CHECK: IRIS
YES
CN004 CHECK
NO
IC101-36 CHECK: IRIS(2.0V)
YES
Q105 Q106 Q107 CHECK
NO
IC101-34 CHECK: IRIS LEVEL
NO
R131 R132 R183 CHECK
YES
IC101-33 CHECK: 3.2V
NO
C119 CHECK
YES
IC101-16 17 CHECK: SHD SHP
NO
IC003-2 3 CHECK: SHD SHP
NO
IC003 CHECK
YES
IC101 REPLACEMENT
YES
10

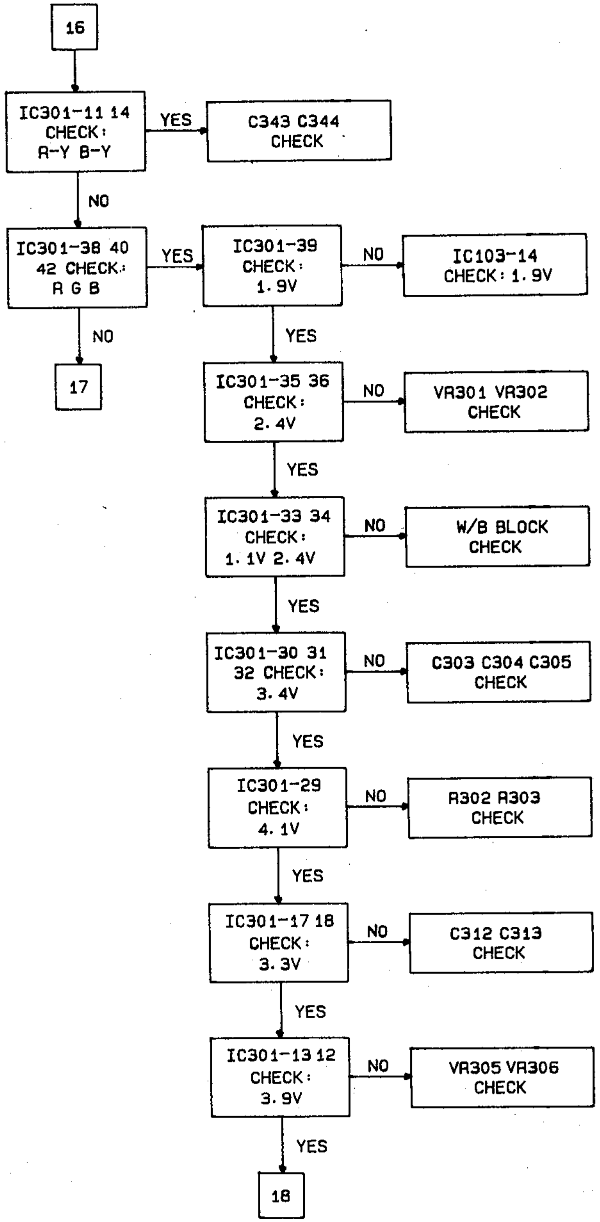

10
IC101-32 29 CHECK: F1 F2 OUT
NO
IC101 CHECK
YES
IC101-31 28 CHECK: 1.2V(CLP)
NO
C117 C118 CHECK
YES
IC101-18 20 CHECK: SP1 SP2
NO
IC003 CHECK
YES
EMITTER
IC101-4 CHECK: AGC IN SIGNAL
YES
IC101 CHECK
NO
IC101-6 CHECK: AGC OUT
YES
R109 CHECK
NO
11

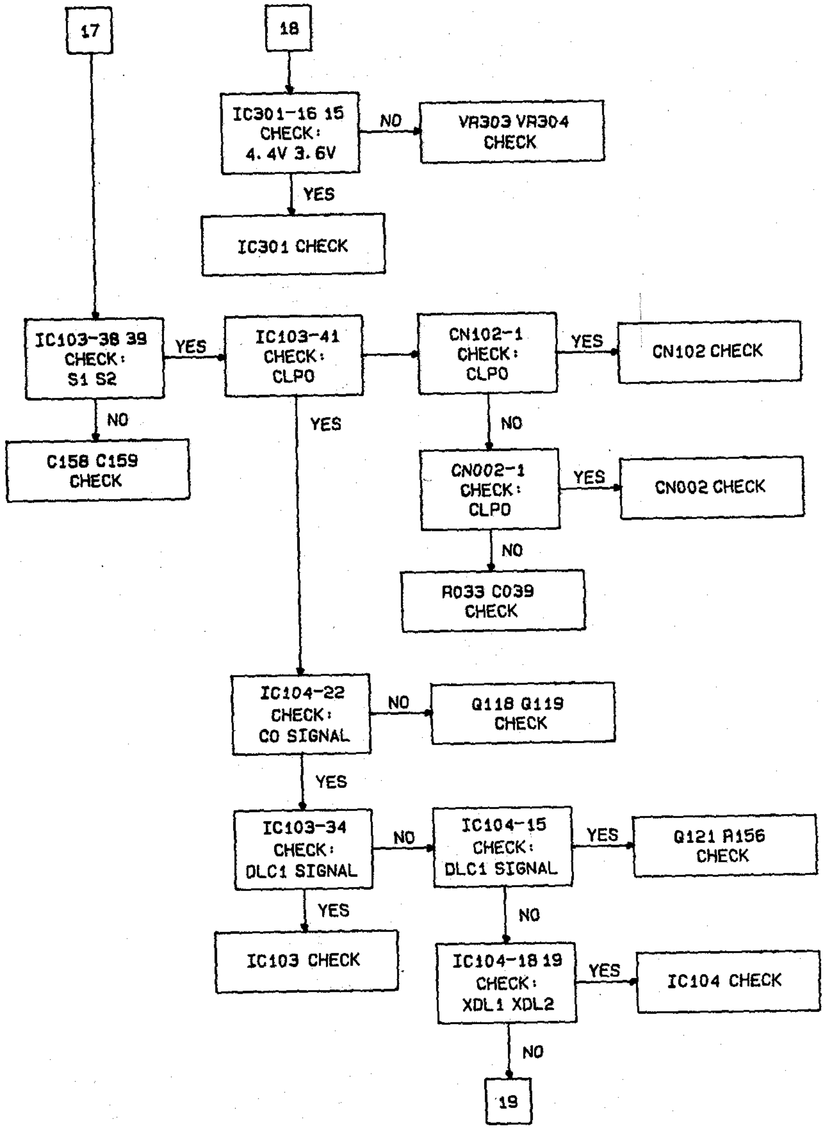

11
IC101-7 CHECK: 2.2V
NO
C105 CHECK
YES
YES
IC101-9 CHECK: 2.3V
NO
IC101-47 CHECK: 0.0V
NO
Q110 Q111 Q112 CHECK
YES
YES
IC101 CHECK
IC101-40 CHECK: 2.0V
YES
Q108 Q109 CHECK
NO
IC101-37 CHECK: CLP1
NO
IC003-42 CHECK
YES
IC101-42 CHECK: 1.9V
YES
R116 R118 CHECK
NO
IC101-13 14 CHECK: CCD OUTPUT
YES
IC101 CHECK
NO
IC001-11 CHECK: CCD OUTPUT
YES
Q004 CHECK
NO
12

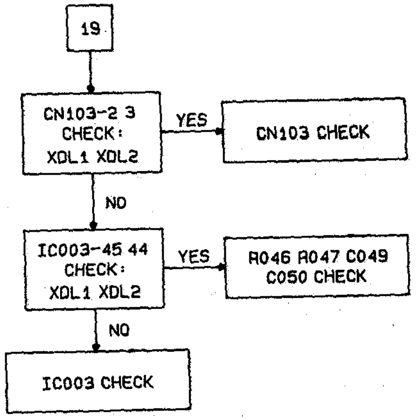

12
IC001-17 CHECK: PG PULSE
NO
IC003-12 CHECK: XPG PULSE
NO
IC003 CHECK
YES
Q006 Q007 Q008 Q009 CHECK
YES
IC001-18 19 CHECK: H1 H2 PULSE
NO
IC003-16 17 CHECK: H1 H2 PULSE
NO
NO
YES
IC001 CHECK
YES
IC001-1 2 3 6 CHECK: V1 V2 V3 V4
NO
IC002-13 14 16 17 CHECK: V1 V2 V3 V4
NO
IC002-3 4 6 8 CHECK: XV1 XV2 XV3 XV4
YES
YES
YES
IC002 CHECK
IC001-7 16 CHECK: VL(-10.3V)
NO
IC002-18 CHECK:-10.3V
YES
IC001-4 CHECK: V SUB
NO
V SUB BLOCK CHECK
YES
IC001 CHECK

6-3-16.

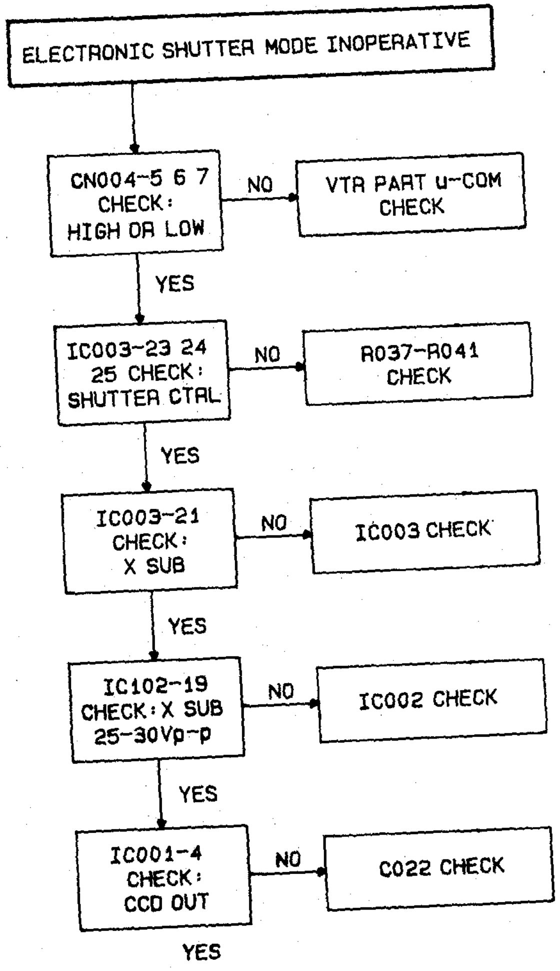

CAMERA E-E MODE: NO COLOR OR ABNORMAL
CN301-1 CHECK: BURST SIGNAL
NO
IC302-24 CHECK: BURST SIGNAL
YES
L303 R325 C329 CHECK
YES
NO
IC302-10 CHECK: BF SIGNAL
NO
CN301-3 CHECK: BF SIGNAL
NO
IC004-1 CHECK
NO
CN301 CN102 CN002 CHECK
YES
IC302-7 CHECK: 4FSC
NO
IC004-23 CHECK: 4FSC OUT
NO
X002 CHECK
YES
CN002 CN102 CN302 W101 CHECK
YES
IC302-8 CHECK: 3.7V
NO
VR307 CHECK
YES
IC302 CHECK
IC302-45 1 CHECK: R-Y B-Y
YES
IC302-47 2 CHECK: CLP(3.4V)
NO
C335 C337 CHECK
16
YES
IC302-46 3 CHECK: 3.5V
NO
C334 C338 CHECK
YES
IC302-48 CHECK: 3.7V
NO
C336 CHECK
YES
IC302 CHECK


16
IC301-11 14 CHECK: R-Y B-Y
YES
C343 C344 CHECK
NO
IC301-38 40 42 CHECK: R G B
YES
IC301-39 CHECK: 1.9V
NO
IC103-14 CHECK: 1.9V
NO
17
YES
IC301-35 36 CHECK: 2.4V
NO
VR301 VR302 CHECK
YES
IC301-33 34 CHECK: 1.1V 2.4V
NO
W/B BLOCK CHECK
YES
IC301-30 31 32 CHECK: 3.4V
NO
C303 C304 C305 CHECK
YES
IC301-29 CHECK: 4.1V
NO
R302 R303 CHECK
YES
IC301-17 18 CHECK: 3.3V
NO
C312 C313 CHECK
YES
IC301-13 12 CHECK: 3.9V
NO
VR305 VR306 CHECK
YES
18

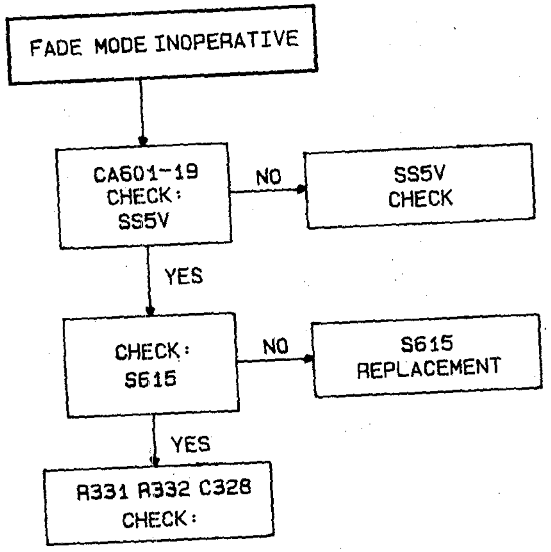

17
18
IC301-16 15 CHECK: 4.4V 3.6V
NO
VR303 VR304 CHECK
YES
IC301 CHECK
IC103-38 39 CHECK: S1 S2
YES
NO
C158 C159 CHECK
IC103-41 CHECK: CLPO
CN102-1 CHECK: CLPO
YES
CN102 CHECK
NO
CN002-1 CHECK: CLPO
YES
CN002 CHECK
NO
R033 C039 CHECK
YES
IC104-22 CHECK: CO SIGNAL
NO
Q118 Q119 CHECK
YES
IC103-34 CHECK: DLC1 SIGNAL
NO
IC104-15 CHECK: DLC1 SIGNAL
YES
Q121 R156 CHECK
YES
IC103 CHECK
NO
IC104-18 19 CHECK: XDL1 XDL2
YES
IC104 CHECK
NO
19


19
CN103-2 3 CHECK: XDL1 XDL2
YES
CN103 CHECK
NO
IC003-45 44 CHECK: XDL1 XDL2
YES
R046 R047 C049 C050 CHECK
NO
IC003 CHECK

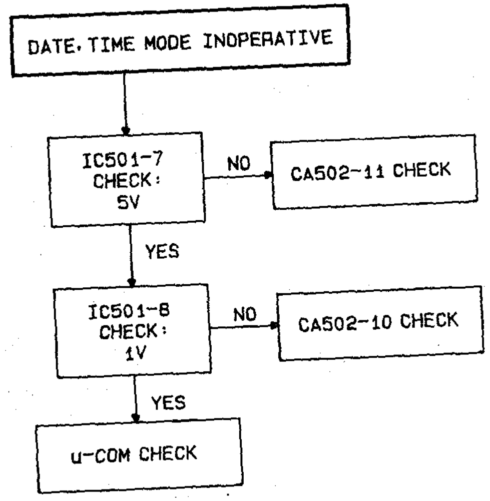
6-3-17.


ELECTRONIC SHUTTER MODE INOPERATIVE
CN004-5 6 7 CHECK: HIGH OR LOW
NO
VTR PART u-COM CHECK
YES
IC003-23 24 25 CHECK: SHUTTER CTRL
NO
R037-R041 CHECK
YES
IC003-21 CHECK: X SUB
NO
IC003 CHECK
YES
IC102-19 CHECK: X SUB 25-30Vp-p
NO
IC002 CHECK
YES
IC001-4 CHECK: CCD OUT
NO
C022 CHECK
YES

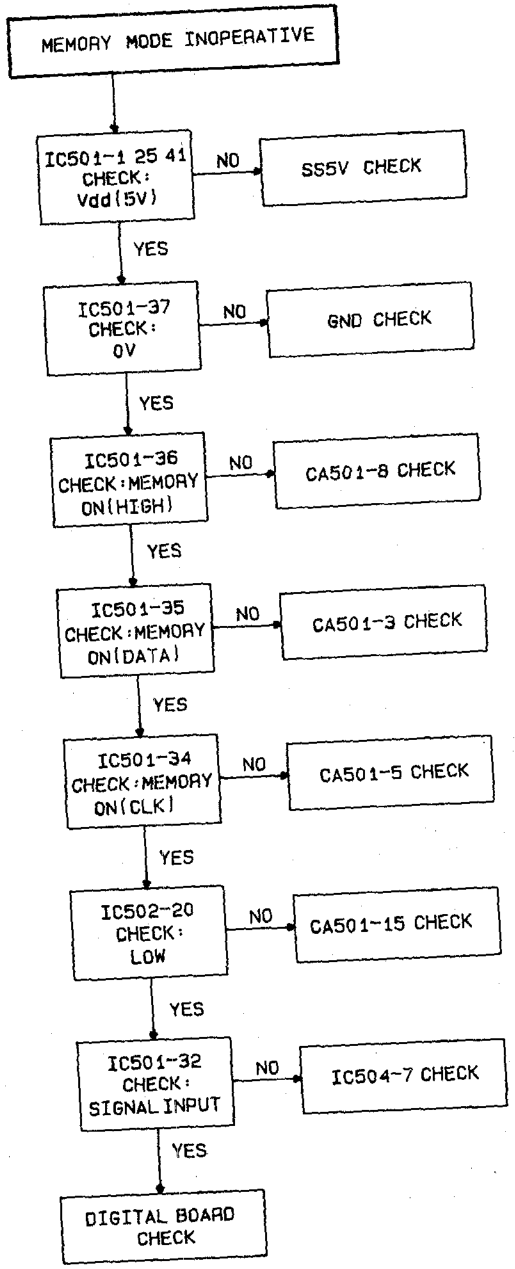
6-3-18.


FADE MODE INOPERATIVE
CA601-19 CHECK: SS5V
NO
SS5V CHECK
YES
CHECK: S615
NO
S615 REPLACEMENT
YES
R331 R332 C328 CHECK:

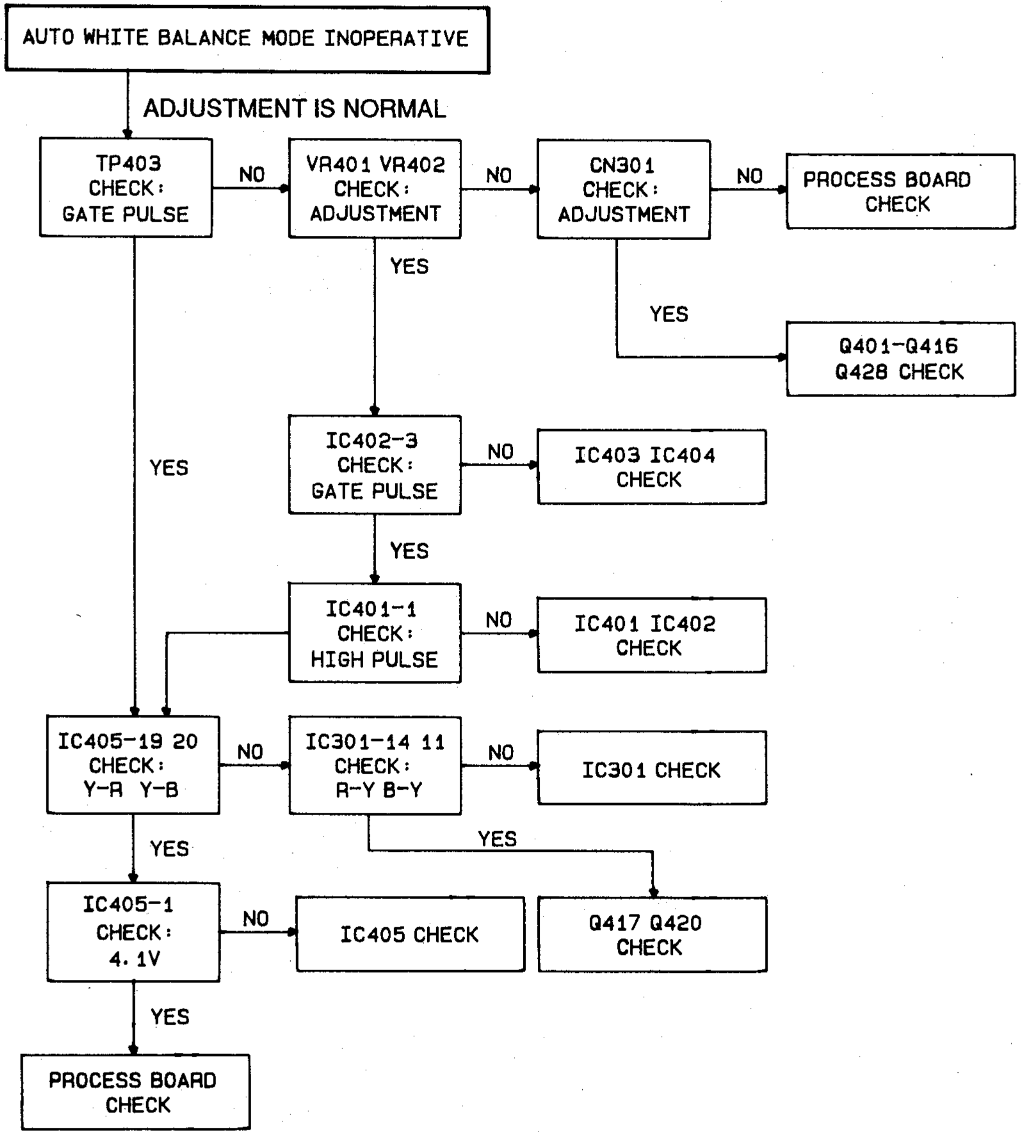
6-3-19.


DATE. TIME MODE INOPERATIVE
IC501-7 CHECK: 5V
NO
CA502-11 CHECK
YES
IC501-8 CHECK: 1V
NO
CA502-10 CHECK
YES
u-COM CHECK

6-3-20.


MEMORY MODE INOPERATIVE
IC501-1 25 41 CHECK: Vdd(5V)
NO
SS5V CHECK
YES
IC501-37 CHECK: 0V
NO
GND CHECK
YES
IC501-36 CHECK:MEMORY ON(HIGH)
NO
CA501-8 CHECK
YES
IC501-35 CHECK:MEMORY ON(DATA)
NO
CA501-3 CHECK
YES
IC501-34 CHECK:MEMORY ON(CLK)
NO
CA501-5 CHECK
YES
IC502-20 CHECK: LOW
NO
CA501-15 CHECK
YES
IC501-32 CHECK: SIGNAL INPUT
NO
IC504-7 CHECK
YES
DIGITAL BOARD CHECK

6-3-21.


AUTO WHITE BALANCE MODE INOPERATIVE
ADJUSTMENT IS NORMAL
TP403 CHECK: GATE PULSE
NO
VR401 VR402 CHECK: ADJUSTMENT
NO
CN301 CHECK: ADJUSTMENT
NO
PROCESS BOARD CHECK
YES
YES
Q401-Q416 Q428 CHECK
YES
IC402-3 CHECK: GATE PULSE
NO
IC403 IC404 CHECK
YES
IC401-1 CHECK: HIGH PULSE
NO
IC401 IC402 CHECK
IC405-19 20 CHECK: Y-R Y-B
NO
IC301-14 11 CHECK: R-Y B-Y
NO
IC301 CHECK
YES
YES
IC405-1 CHECK: 4.1V
NO
IC405 CHECK
Q417 Q420 CHECK
YES
PROCESS BOARD CHECK

7. REPLACEMENT PARTS LIST

7-1. GENERAL INFORMATION

1. Parts Replacement

Many electrical and mechanical parts in CAMCORDER have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.
Replacement parts which have these special safety characteristics are identified in this manual ; electrical components having such features are identified by ⚠ in the replacement parts lists and schematic diagrams. The use of a replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

2. Unless otherwise specified :

1) All resistors are in ohms (Ω)

- K=1,000
- M=1,000K

*** RD** : 1/8W, +/- 5% Carbon

*** RM** : 1/4W, +/- 5% Metal-film

2) All capacitors are in +/- 10%, MF = uF.

* CC : PF = uuF, Ceramic, Temp

* CK : PK = uuF, Ceramic, MK

* CS : Tantalium

* CQ : Polyester

* CE : Electrolytic

3) All coils are in microhenry (uH).

- 1mH = 1,000uH.

3. ASS'Y = Assembly.

4. P . W . B = Printed Wiring Board.

5. ⚠ Mark : Safety related parts.

6. How to order replacement parts

To have your order filed promptly and correctly, please furnish the following informations.

1) Model Number

2) Location Number

3) Part Number

4) Description & Specification

7. P . W . B Assembly is not Replacement Item.

7-2. S.M.D (Surface Mounted Devices) INFORMATION

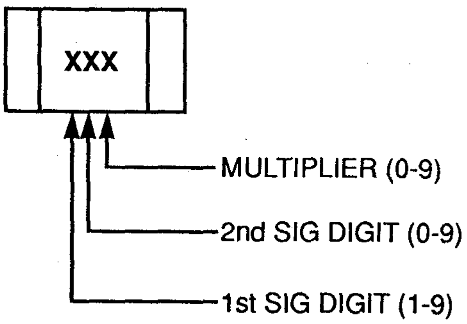
1. Check the following before S.M.D Troubleshooting

* Cracked or Chipped Component Body
* Cracked or Separated Solder Joints
* Peeling end Terminations or Fractured Leads
* Rejection of Solder from Copper Pads or Component
* Foreign Matter on Copper Pads
* Solder Bridges

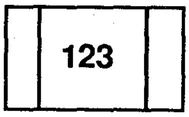
2. S.M.D Identification

1) Chip Resistor Identification

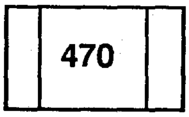
* Standard Chip Resistor Code


XXX
MULTIPLIER (0-9)
2nd SIG DIGIT (0-9)
1st SIG DIGIT (1-9)

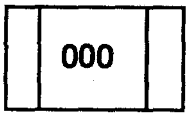
Example:



= 12 x 10^3(1000) = 12000 Ω
= 12K Ω



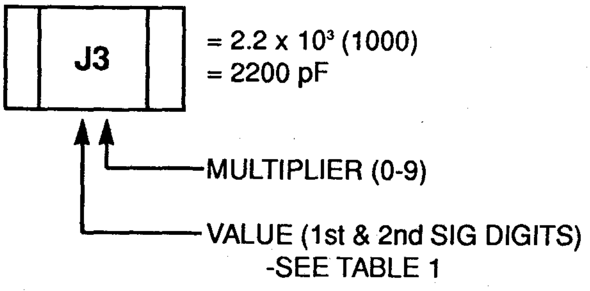
= 47 x 10^0 (1) = 47 Ω



= CHIP JUMPER = 0 Ω

2) Chip Capacitor Identification

* Standard Two Place Code


J3
MULTIPLIER (0-9)
VALUE (1st & 2nd SIG DIGITS)
-SEE TABLE 1

= 2.2 x 10^3 (1000)
= 2200 pF

Examples:

S2 = 4.7 x 100 = 470 pF

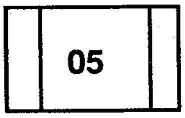
b0 = 3.5 x 1.0 = 3.5 pF

VALUE (33 VALUE SYMBOLS)-UPPER AND LOWER CASE LETTERS					MULTIPLIER
A-1.0	H-2.0	b-3.5	f-5.0	X-7.5	0 = x 1.0
B-1.1	J-2.2	P-3.6	T-5.1	t-8.0	1 = x 10
C-1.2	K-2.4	Q-3.6	U-5.6	Y-8.2	2 = x 100
D-1.3	a-2.5	d-4.0	m-6.0	y-9.0	3 = x 1000
E-1.5	L-2.7	R-4.3	V-6.2	Z-9.1	4 = x 10000
F-1.6	M-3.0	e-4.5	W-6.8		5 = x 100000
G-1.8	N-3.3	S-4.7	n-7.0		etc.

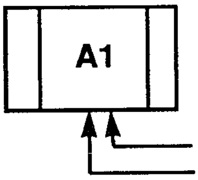
TABLE 1

* Alternate Two Place Code

. Values below 100 pF - Value Read Directly . Values 100 pF and above - Letter / Number Code

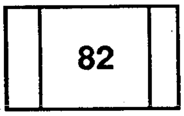


= 5 pF

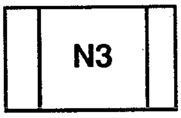


= 10 x 10
= 100 pF

MULTIPLIER (1-9)
VALUE (1st & 2nd SIG DIGITS)
- SEE TABLE 2



= 82 pF

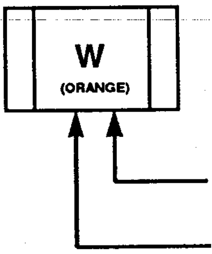


= 33 x 1000
= 33000 pF
= .033 uF

VALUE (24 VALUE SYMBOLS)-UPPERCASE LETTERS ONLY					MULTIPLIER
A-10	F-16	L-27	R-43	W-68	1 = x 10
B-11	G-18	M-30	S-47	X-75	2 = x 100
C-12	H-20	N-33	T-51	Y-82	3 = x 1000
D-13	J-22	P-36	U-56	Z-91	4 = x 10000
E-15	K-24	Q-39	V-62		5 = x 100000 etc.

TABLE 2

* Standard Single Place Code



= 4.7 x 1.0=4.7 pF

COLOR-MULTIPLIER

SYMBOL-VALUE
- SEE TABLE 3

Examples:

R (Green) =3.3 x 100 = 330 pF

7 (Blue) =8.2 x 1000 = 8200 pF

VALUE (24 VALUE SYMBOLS)-UPPERCASE LETTERS & NUMERALS					MULTIPLIER(COLOR)
A-1.0	H-1.6	N-2.7	V-4.3	3-6.8	ORANGE = x 1.0
B-1.1	I-1.8	O-3.0	W-4.7	4-7.5	BLACK = x 10
C-1.2	J-2.0	R-3.3	X-5.1	7-8.2	GREEN = x 100
D-1.3	K-2.2	S-3.6	Y-5.6	9-9.1	BLUE = x 1000
E-1.5	L-2.4	T-3.9	Z-6.2		VIOLET = x 10000
					RED = x 100000

TABLE 3

3. MELF (Metal-Electrode Face Bonding) Identification

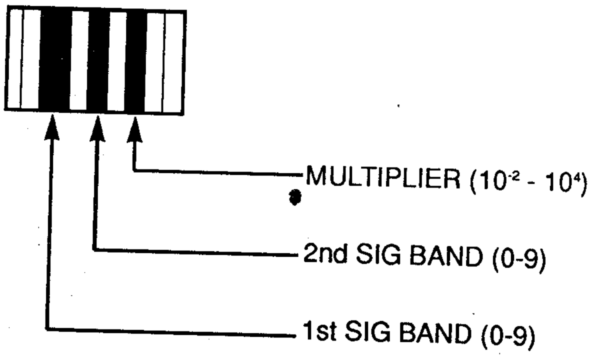
1) Body Coler Features

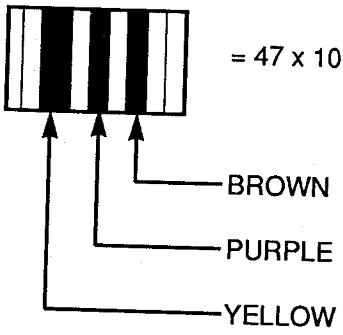
* Capacitor
- Pink : Roted Voltage (12V, 16V, 25V)
- Yellowish Green : Roted Voltage (50V)

* Resistor : Yellow

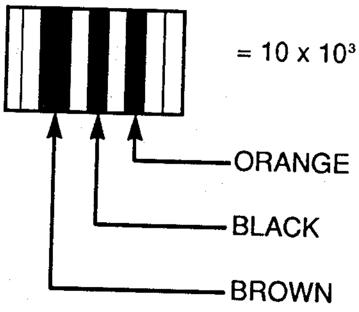
2) Standard MELF Chip Capacitor and Resistor Code

The capacitance and resistance can be indicated by three color. The 1 st color band represents the first significant figure of the resistor's (capacitor's) value. Also, the 1 st color band is the thickest. The 2nd color band represents the second significant figure of capacitor's value. The 3rd color band represents the multiplier.


MULTIPLIER (10^{-2} - 10^{4})
2nd SIG BAND (0-9)
1st SIG BAND (0-9)


BROWN
PURPLE
YELLOW

$= 47 \times 10^{1}$ (10) = 470 pF

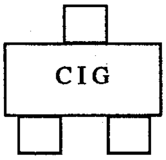
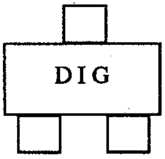
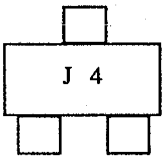
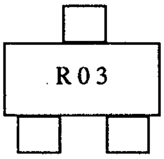
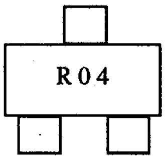
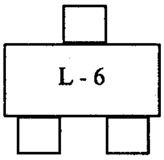
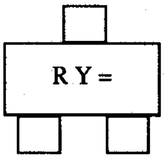
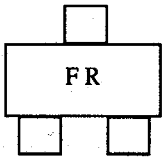
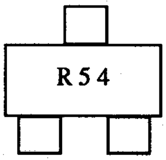

ORANGE
BLACK
BROWN

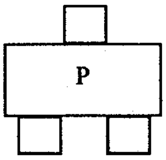
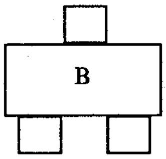
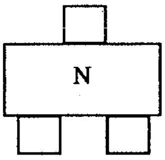
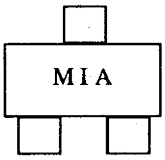
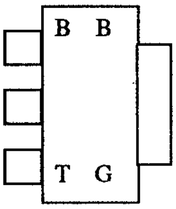
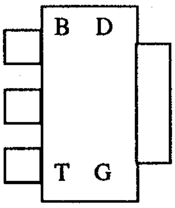
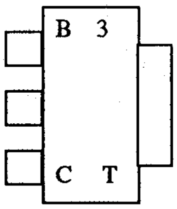
$= 10 \times 10^{3}$ (1000) = 10,000 Ω
= 10K Ω

COLOR BAND	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	PURPLE	GRAY	WHITE	BLACK	GOLD	SILVER
1st AND 2nd NO	1	2	3	4	5	6	7	8	9	0	-	-
MULTIPLIER	10^{1}	10^{2}	10^{3}	10^{4}	-	-	-	-	-	10^{0}	10^{-1}	10^{-2}

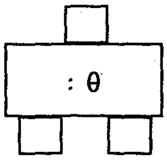
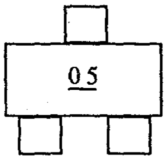
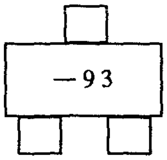
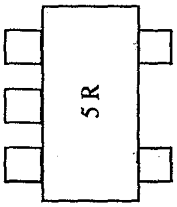
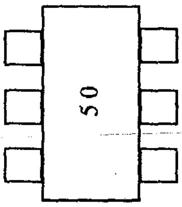
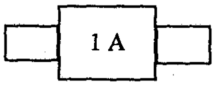
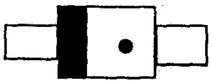
TABLE 4

4. Semiconductors Layout and Specification (VTR Parts)

SEMICONDUCTOR	SPECIFICATION	DISCRIPTION
	KSC1623	TRANSISTOR
	KSA812	TRANSISTOR
	2SC3142	TRANSISTOR
	KSR1103	TRANSISTOR
	KSR1104	TRANSISTOR
	2SC2812	TRANSISTOR
	2SC3898	TRANSISTOR
	2SA1037	TRANSISTOR
	KSR2104	TRANSISTOR

SEMICONDUCTOR	SPECIFICATION	DISCRIPTION
	DAP202K	DIODE
	SB05-05CPTB	DIODE
	DAN202K	DIODE
	MA159	DIODE
	2SB1119	TRANSISTOR
	2SB1121	TRANSISTOR
	SCI7701YTA	IC

5. Semiconductors Layout and Specification (CAMERA Parts)

SEMICONDUCTOR	SPECIFICATION	DISCRIPTION
	SB01-05CP	DIODE
	DTC124TK	TRNASISTOR
	2SK300	FET
	XN1501	DUAL TR
	XN6401	DUAL TR
	MA110	DIODE
	1T32	DIODE

7-3. ELECTRICAL REPLACEMENT PARTS LIST

7-3-1. VTR Section Parts List

LOCA.NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
121	69063-213-160	ASSY START/STOP BOARD
CN751	63349-900-005	CONNECTOR;CGP1713-0101
CN752	63349-900-004	CONNECTOR;CGP1705-0101
J751	63334-104-071	JACK;HSJ1102-01-540 REMOTE
J752	63334-104-069	JACK;HSJ1423-01-050 EXT.MIC EAR
L751	62429-962-124	INDUCTOR-CHIP;NL322522T 1R0-K
L752	62429-962-124	INDUCTOR-CHIP;NL322522T 1R0-K
L753	62429-962-124	INDUCTOR-CHIP;NL322522T 1R0-K
Q751	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q752	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
R751	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
SW751	63519-103-104	SW-SLIDE;SSSS21B51A
SW752	63519-104-101	SW-KEYBOARD;SKEYAC008A
W701	63053-916-275	LEAD CONNECTOR ASSY;1571 #28 A GRY 170AA
W751	63053-202-115	LEAD CONNECTOR ASSY;1429 #26 5295-51004
**		
122	69063-213-154	ASSY MIC BOARD
C481	61647-804-470	C-ELEC;CEAP 16V 47M SE(2.5)
C482	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C483	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C484	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C485	61453-130-007	C-CERAMIC.CHIP;1206 5C 104KAT 050M
C486	61453-130-226	C-CERAMIC.CHIP;1206 5E 224ZAT 050M
C487	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C489	61453-130-007	C-CERAMIC.CHIP;1206 5C 104KAT 050M
C490	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C491	61453-130-333	C-CERAMIC.CHIP;0805 5C 333MAT 050M
C492	61647-804-470	C-ELEC;CEAP 16V 47M SE(2.5)
CN481	63349-900-004	CONNECTOR;CGP1705-0101
CN482	63349-900-030	CONNECTOR-WAFER;CGP1603-0101
IC481	62119-701-073	IC-FP;LA7293M
J481	63334-104-069	JACK;HSJ1423-01-050 EXT.MIC EAR
J482	63334-104-070	JACK;HSJ1022-01-110 DC OUT JACK
Q481	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
R481	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R482	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R483	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R484	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R485	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R486	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R489	61079-917-100	R-MG.CHIP;RMC 1/10 10-J
R490	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
SW481	63519-105-101	SW-TACT.CHIP;SKHMPS066A
W481	63053-202-115	LEAD CONNECTOR ASSY;1429 #26 5295-51004
**		
124	69063-213-148	ASSY VIDEO BOARD
C200	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C201	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C202	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C203	61453-131-273	C-CERAMIC.CHIP;0805 5C 273KAT 050M
C205	61453-131-222	C-CERAMIC.CHIP;0805 5 222JAT 050M
C206	61453-131-330	C-CERAMIC.CHIP;0805 5A 330JAT 050M
C207	61453-130-151	C-CERAMIC.CHIP;0805 5A 151JAT 050M
C208	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C209	61453-130-471	C-CERAMIC.CHIP;0805 5A 471KAT 050M
C210	61453-131-271	C-CERAMIC.CHIP;0805 5A 271JAT 050M
C211	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C212	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C214	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C215	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C216	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C217	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C218	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C219	61453-131-270	C-CERAMIC.CHIP;0805 5A 270JAT 050M
C220	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C221	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C223	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C224	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C225	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C226	61454-139-620	C-CERAMIC.CHIP;08055A 620 JAT 050R
C227	61453-131-332	C-CERAMIC.CHIP;0805 5C 332KAT 050M
C228	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C229	61453-130-392	C-CERAMIC.CHIP;0805 5A 390JAT 050M
C230	61453-130-150	C-CERAMIC CHIP;0805 5A 150JAT 050M
C231	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C232	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C233	61453-131-181	C-CERAMIC CHIP;0805 5A 181JAT 050M
C234	61453-131-751	C-CERAMIC.CHIP;0805 5A 750JAT 050M
C235	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C236	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C237	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C240	61453-131-273	C-CERAMIC.CHIP;0805 5C 273KAT 050M
C241	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C242	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C243	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C244	61454-252-111	C-CERAMIC.CHIP;0805 5A 111JAT 050M
C245	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C246	61453-131-181	C-CERAMIC CHIP;0805 5A 181JAT 050M
C247	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C248	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C249	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C250	61453-130-471	C-CERAMIC.CHIP;0805 5A 471KAT 050M
C251	61453-131-391	C-CERAMIC.CHIP;0805 5A 391JAT 050M
C252	61453-131-271	C-CERAMIC.CHIP;0805 5A 271JAT 050M
C253	61453-131-680	C-CERAMIC CHIP;0805 5A 680JAT 050M
C254	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C255	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C256	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C258	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C259	61453-130-560	C-CERAMIC.CHIP;0805 5A 560JAT 050M
C260	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C261	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C262	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C263	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C264	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C265	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C266	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C267	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C268	61647-303-100	C-ELEC;CEAP 10V 10M NS(2.5)
C272	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C273	61647-303-100	C-ELEC;CEAP 10V 10M NS(2.5)
C275	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C277	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C278	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C279	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C280	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C281	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C282	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C283	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C284	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C285	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C286	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C287	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C288	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C289	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C290	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C291	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C292	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C293	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C294	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C295	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C296	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C297	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
C298	61454-252-111	C-CERAMIC.CHIP;0805 5A 111JAT 050M
C299	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C300	61454-245-479	C-ELEC.CHIP;ECE-V1VA4R7R
C301	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C302	61453-130-151	C-CERAMIC.CHIP;0805 5A 151JAT 050M
C303	61453-131-331	C-CERAMIC.CHIP;0805 5A 331JAT 050M
C304	61454-245-947	C-ELEC.CHIP;ECE-V1HAR47R
C305	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C306	61454-245-947	C-ELEC.CHIP;ECE-V1HAR47R
C307	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C308	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C309	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C310	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C311	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C312	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C313	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C314	61454-245-479	C-ELEC.CHIP;ECE-V1VA4R7R
C315	61454-136-211	C-CERAMIC CHIP;CC20125 CH 030J
C316	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C317	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C318	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C319	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C320	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C321	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C322	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C323	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C324	61453-131-332	C-CERAMIC.CHIP;0805 5C 332KAT 050M
C325	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C326	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C327	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C328	61453-131-391	C-CERAMIC.CHIP;0805 5A 391JAT 050M
C329	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C331	61454-245-968	C-ELEC.CHIP;ECE-V1HVR68SR
C332	61454-246-292	C-ELEC.CHIP;ECE-V1HA2R2R
C333	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C334	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C335	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C336	61454-242-221	C-ELEC.CHIP;ECE-V0GA221P
C337	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C338	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C339	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C340	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C341	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C342	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C343	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C345	61454-245-947	C-ELEC.CHIP;ECE-V1HAR47R
C346	61454-243-471	C-ELEC.CHIP;ECE-V0JA470P
C347	61454-245-947	C-ELEC.CHIP;ECE-V1HAR47R
C351	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C352	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C370	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C400	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C401	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C402	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C403	61453-131-562	C-CERAMIC.CHIP;0805 5C 562KAT 050M
C404	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C405	61454-245-479	C-ELEC.CHIP;ECE-V1VA4R7R
C406	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C407	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C408	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C409	61453-130-272	C-CERAMIC.CHIP;CC20125 X7R 272K
C410	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C411	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C412	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C413	61453-131-330	C-CERAMIC.CHIP;0805 5A 330JAT 050M
C414	61453-130-392	C-CERAMIC.CHIP;0805 5A 390JAT 050M
C415	61453-130-392	C-CERAMIC.CHIP;0805 5A 390JAT 050M
C416	61453-131-270	C-CERAMIC.CHIP;0805 5A 270JAT 050M
C417	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C418	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C421	61453-130-471	C-CERAMIC.CHIP;0805 5A 471KAT 050M
C422	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C423	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C425	61453-131-180	C-CERAMIC.CHIP;0805 5A 180JAT 050M
C426	61453-130-302	C-CERAMIC.CHIP;0805 5A 301JAT 050M
C427	61453-130-302	C-CERAMIC.CHIP;0805 5A 301JAT 050M
C429	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C430	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
CN251	63344-111-111	CONNECTOR FPC;52207-2290
CN252	63344-111-111	CONNECTOR FPC;52207-2290
CN253	63349-069-090	CONNECTOR-HOUSING;5513-09APB
CN254	63349-069-090	CONNECTOR-HOUSING;5513-09APB
CN255	63349-900-010	CONNECTOR;CGP1604-0101
D201	62169-901-093	DIODE.CHIP;MA159-(TX)
D202	62169-901-095	DIODE-CHIP;DAN202K (T96)
D203	62169-901-062	DIODE.CHIP;DCC010TA
D204	62169-901-062	DIODE.CHIP;DCC010TA
D205	62169-901-095	DIODE-CHIP;DAN202K (T96)
D206	62169-901-062	DIODE.CHIP;DCC010TA
D207	62169-901-093	DIODE.CHIP;MA159-(TX)
D401	62169-901-095	DIODE-CHIP;DAN202K (T96)
D402	62169-901-095	DIODE-CHIP;DAN202K (T96)
D403	62169-901-095	DIODE-CHIP;DAN202K (T96)
D410	62169-901-095	DIODE-CHIP;DAN202K (T96)
DL201	62469-030-028	DELAY LINE;ADL-CF2544E
FL201	64529-632-106	FILTER CHIP;A353BCH-K5058ESAR
FL202	64529-632-104	FILTER CHIP;TH353TCI-K5059DFES
FL203	64529-632-105	FILTER CHIP;H354BAI-K5060EJD
FL204	64529-310-052	FILTER-CERAMIC;SFE 5.17 MBF
IC201	62119-121-032	IC-FP;CXA1201BQ-T3
IC202	62119-121-015	IC;CXL1502-T1
IC203	62119-121-031	IC-FP;CXA1200BQ
IC204	62119-121-014	IC;CXA1203N-T3
IC401	62109-104-999	IC-FP;UPD 6145G-620
IC402	62119-101-759	IC;TC40H008F
IC403	62119-701-072	IC-FP;NJM-2229M(TE2)
IC404	62119-120-004	IC;MSM 5258MS-K
J201	63334-104-073	JACK ASSY-A/V OUT;RCA/DC OUT
J202	63349-604-120	CONNECTOR WAFER;53014-0210
J203	63349-604-120	CONNECTOR WAFER;53014-0210
L200	62429-962-181	INDUCTOR-CHIP;NL322522T 181-J
L201	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L203	62429-962-471	INDUCTOR-CHIP;NL453232T 471-J
L204	62429-962-331	INDUCTOR-CHIP;NL453232T 331-J
L205	62429-962-391	INDUCTOR-CHIP;NL322522T 390-J
L206	62429-962-331	INDUCTOR-CHIP;NL453232T 331-J
L207	62429-962-181	INDUCTOR-CHIP;NL322522T 181-J
L208	62429-962-330	INDUCTOR-CHIP;NL322522T 330-J
L209	62429-962-100	INDUCTOR-CHIP;NL322522T 100-J
L210	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L211	62429-962-102	INDUCTOR-CHIP;NL322522T 101-J
L212	62429-962-102	INDUCTOR-CHIP;NL322522T 101-J
L213	62429-962-827	INDUCTOR-CHIP;NL322522T 8R2-K
L214	62429-962-331	INDUCTOR-CHIP;NL453232T 331-J
L215	62429-962-121	INDUCTOR-CHIP;NL322522T 121-J
L216	62429-962-391	INDUCTOR-CHIP;NL322522T 390-J
L217	62429-962-151	INDUCTOR-CHIP;NL322522T 150-J
L218	62429-962-561	INDUCTOR-CHIP;NL322522T 560-J
L219	62429-962-330	INDUCTOR-CHIP;NL322522T 330-J
L220	62429-961-104	INDUCTOR-CHIP;LQH3N 100-K
L221	62429-961-474	INDUCTOR-CHIP;LQH3N 470-K
L222	62429-961-474	INDUCTOR-CHIP;LQH3N 470-K
L223	62429-961-104	INDUCTOR-CHIP;LQH3N 100-K
L224	62429-961-104	INDUCTOR-CHIP;LQH3N 100-K
L225	62429-962-221	INDUCTOR.CHIP;NL322522 220-J
L226	62429-962-151	INDUCTOR-CHIP;NL322522T 150-J
L227	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L228	62429-962-470	INDUCTOR-CHIP;NL322522T 470-J
L229	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L230	62429-962-152	INDUCTOR-CHIP;NL322522T 151-J
L401	62429-962-470	INDUCTOR-CHIP;NL322522T 470-J
L402	62429-961-104	INDUCTOR-CHIP;LQH3N 100-K
Q201	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q202	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q203	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q204	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q205	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q206	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)

LOCA.NO	PART-NUMBER	DESCRIPTION.SPECIFICATION
Q207	62129-301-116	TRANSISTOR.CHIP;2SC 3142(REEL)
Q208	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q209	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q210	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q211	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q212	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q213	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q214	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q215	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q216	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q217	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q218	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q219	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q220	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q221	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q222	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q223	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q225	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q226	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q227	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q228	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q229	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q230	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q231	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q232	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q233	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q234	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q235	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q236	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q237	62129-301-115	TRANSISTOR.CHIP;2SB 1119 (REEL)
Q238	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q239	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q240	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q241	62129-301-115	TRANSISTOR.CHIP;2SB 1119 (REEL)
Q242	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q243	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q244	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q245	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q246	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q401	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q402	62129-101-110	TRANSISTOR.CHIP;KSR 1102 (REEL)
Q403	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q404	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q405	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q406	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q410	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q411	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q412	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q413	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q414	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q415	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q416	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q417	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q418	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
R200	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R201	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R202	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R203	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R204	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R205	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R206	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R207	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R208	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R209	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R210	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R211	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R212	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R213	61079-917-221	R-MG.CHIP;RMC 1/10 220-J
R214	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R215	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R216	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R217	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R218	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R219	61079-917-680	R-MG.CHIP;RMC 1/10 68-J

LOCA.NO	PART-NUMBER	DESCRIPTION.SPECIFICATION
R222	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R223	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R224	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R225	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R226	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R227	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R228	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R230	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R231	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R232	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R233	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R234	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R235	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R236	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R237	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R238	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R239	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R240	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R241	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R242	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R243	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R244	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R245	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R251	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R252	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R253	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R254	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R255	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R256	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R257	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R258	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R259	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R260	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R261	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R262	61079-917-224	R-MG.CHIP;RMC 1/10 220K-J
R264	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R265	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R266	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R267	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R268	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R269	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R271	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R272	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R273	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R274	61079-917-680	R-MG.CHIP;RMC 1/10 68-J
R275	61079-916-102	R-MG.CHIP;RMC 1/10 1K-F
R276	61079-916-471	R-MG.CHIP;RMC 1/10 470-F
R277	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R278	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R279	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R280	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R281	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R282	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R283	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R284	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R285	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R286	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R287	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R288	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R291	61079-916-332	R-MG.CHIP;RMC 1/10 3.3K-F
R292	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R293	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R294	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R295	61079-917-684	R-MG.CHIP;RMC 1/10 680K-J
R297	61079-917-275	R-MG.CHIP;RMC 1/10 2.7M-J
R298	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R299	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R300	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R301	61079-916-102	R-MG.CHIP;RMC 1/10 1K-F
R302	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R303	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R304	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R305	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R307	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R309	61079-917-390	R-MG.CHIP;RMC 1/10 39-J
R311	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R312	61079-917-242	R-MG.CHIP;RMC 1/10 2.4K-J
R313	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R314	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R315	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R316	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R317	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R318	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R319	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R320	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R321	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R322	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R323	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R324	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R325	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R326	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R327	61079-917-221	R-MG.CHIP;RMC 1/10 220-J
R328	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R329	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R330	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R331	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R332	61079-917-221	R-MG.CHIP;RMC 1/10 220-J
R333	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R334	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R335	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R336	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R337	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R338	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R339	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R340	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R341	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R342	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R343	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R344	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R345	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R346	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R347	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R348	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R349	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R350	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R351	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R352	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R353	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R354	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R355	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R356	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R357	61079-917-680	R-MG.CHIP;RMC 1/10 68-J
R358	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R359	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R360	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R361	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R362	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R363	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R364	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R365	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R366	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R367	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R368	61079-917-339	R-MG.CHIP;RMC 1/10 3.3-J
R369	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R370	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R391	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R392	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R393	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R394	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R395	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R396	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R397	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R398	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R399	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R400	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R401	61079-917-221	R-MG.CHIP;RMC 1/10 220-J
R402	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R403	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R405	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R406	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R407	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R408	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R409	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R410	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R411	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R412	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R413	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R414	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R415	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R416	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R417	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R418	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R419	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R421	61079-916-102	R-MG.CHIP;RMC 1/10 1K-F
R422	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R423	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R424	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R425	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R426	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R427	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R428	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R429	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R430	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R431	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R432	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R433	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R434	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R435	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R436	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R437	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R438	61079-917-563	R-MG.CHIP;RMC 1/10 56K-J
R439	61079-917-390	R-MG.CHIP;RMC 1/10 39-J
R440	61079-917-221	R-MG.CHIP;RMC 1/10 220-J
R441	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R442	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
VC401	61829-302-701	C-TRIMMER.CHIP;TZB04P300BA 006
VR201	61249-922-767	VR-SEMI.CHIP;EVM-7JSX30BE3
VR202	61249-922-771	VR-SEMI CHIP;EVM-7JSX30B52
VR203	61249-922-757	VR-SEMI CHIP;EVM-7JSX30B13
VR204	61249-922-767	VR-SEMI.CHIP;EVM-7JSX30BE3
VR205	61249-922-763	VR-SEMI CHIP;EVM-7JSX30B53
VR206	61249-922-767	VR-SEMI.CHIP;EVM-7JSX30BE3
VR207	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR208	61249-922-758	VR-SEMI CHIP;EVM-7JSX30B14
VR209	61249-922-763	VR-SEMI CHIP;EVM-7JSX30B53
VR210	61249-922-758	VR-SEMI CHIP;EVM-7JSX30B14
VR211	61249-922-763	VR-SEMI CHIP;EVM-7JSX30B53
VR212	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR213	61249-922-759	VR-SEMI CHIP;EVM-7JSX30B15
W203	61079-917-000	R-MG.CHIP;RMC 1/10 000
W220	63053-916-244	LEAD CONNECTOR ASSY;1533 #28 B BLK 170BB(M)
W300	61079-917-000	R-MG.CHIP;RMC 1/10 000
W302	61079-217-000	R-MG.CHIP;RMC 1/8 000-J
W303	61079-917-000	R-MG.CHIP;RMC 1/10 000
W304	61079-917-000	R-MG.CHIP;RMC 1/10 000
W305	61079-917-000	R-MG.CHIP;RMC 1/10 000
X201	64539-012-532	CRYSTAL;ATS-49/U 4.433619MHZ
X202	64539-012-519	CRYSTAL;ATS-49/U 3.58MHZ
X203	64539-102-342	CERAMIC-RESONATOR;CSB-503F2

LOCA.NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
125	69063-213-158	ASSY DC-DC CONV. BOARD
B901	62429-014-337	CHIP-FERRITE BEAD;HF50ACB322513-T
B902	62429-014-337	CHIP-FERRITE BEAD;HF50ACB322513-T
C901	61453-130-162	C-CERAMIC CHIP;0805 5C 222KAT 050M
C902	61453-130-162	C-CERAMIC CHIP;0805 5C 222KAT 050M
C903	61453-130-162	C-CERAMIC CHIP;0805 5C 222KAT 050M
C904	61637-504-221	C-ELEC;CEAP 16V 220M SG(8X11.5)
C905	61647-708-010	C-ELEC;CEAP 50V 1M SS(2.5)
C906	61453-130-683	C-CERAMIC.CHIP;0805 5C 682KAT 050M
C907	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C908	61647-708-010	C-ELEC;CEAP 50V 1M SS(2.5)
C909	61647-708-010	C-ELEC;CEAP 50V 1M SS(2.5)
C910	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C911	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C912	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C913	61453-130-162	C-CERAMIC CHIP;0805 5C 222KAT 050M
C914	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C915	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C916	61453-130-162	C-CERAMIC CHIP;0805 5C 222KAT 050M
C917	61454-247-105	C-ELECTROLYTIC;OS COND 10SC 10M.K
C918	61609-144-230	C-ELECTROLYTIC;CE04W 10V 82M(SS)
C919	61453-130-041	C-CERAMIC.CHIP;CC3216 Y5U/C 474KB
C920	61454-247-105	C-ELECTROLYTIC;OS COND 10SC 10M.K
C921	61647-804-470	C-ELEC;CEAP 16V 47M SE(2.5)
C922	61647-804-470	C-ELEC;CEAP 16V 47M SE(2.5)
C923	61647-804-470	C-ELEC;CEAP 16V 47M SE(2.5)
C924	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C925	61647-804-220	C-ELEC;CEAP 16V 22M SE(2.5)
C926	61609-413-040	C-ELECTROLYTIC;CE04W 50V 10M(SE)
C927	61609-413-040	C-ELECTROLYTIC;CE04W 50V 10M(SE)
C928	61454-247-335	C-ELECTROLYTIC;OS COND 25SC 3R3M.K
C929	61647-805-220	C-ELEC;CEAP 25V 22M SE(2.5)
C930	61647-804-479	C-ELEC;CEAP 16V 4.7M SE(2.5)
C931	61647-704-330	C-ELEC;CEAP 16V 33M SS(2.5)
CN901	63349-603-020	CONNECTOR-WAFER;53015-0210
CN902	63349-603-020	CONNECTOR-WAFER;53015-0210
D901	62169-901-097	DIODE-CHIP;DA204K (T96)
D902	62169-901-097	DIODE-CHIP;DA204K (T96)
D903	62169-106-011	DIODE-ZENER.CHIP;RD-12M T1-B1,B2
D904	62169-102-054	DIODE-SHOTTKY.CHIP;E10QS03-TE12R
D905	62169-901-095	DIODE-CHIP;DAN202K (T96)
D906	62169-901-095	DIODE-CHIP;DAN202K (T96)
D907	62169-901-095	DIODE-CHIP;DAN202K (T96)
D908	62169-901-095	DIODE-CHIP;DAN202K (T96)
D909	62169-901-095	DIODE-CHIP;DAN202K (T96)
D910	62169-901-095	DIODE-CHIP;DAN202K (T96)
F901	64709-086-010	FUSE;T1.6A 250V SJ EUR LEAD
F902	64709-600-010	FUSE-MICRO;TR/MCR-1.5 BUSS
F903	64709-600-010	FUSE-MICRO;TR/MCR-1.5 BUSS
IC901	62119-701-055	IC-FP;TL1451CNSL TAPG
J901	63104-600-610	BATTERY TERMINAL-ASSY;SV-E27
L901	62429-961-126	INDUCTOR-CHIP;LQH3N 1.0-M
L902	62429-961-126	INDUCTOR-CHIP;LQH3N 1.0-M
L903	62429-961-126	INDUCTOR-CHIP;LQH3N 1.0-M
L904	62429-961-126	INDUCTOR-CHIP;LQH3N 1.0-M
L905	62429-961-126	INDUCTOR-CHIP;LQH3N 1.0-M
L906	62429-961-126	INDUCTOR-CHIP;LQH3N 1.0-M
L907	61454-250-106	COIL CHOKE;262LY-K5006
L908	61454-250-106	COIL CHOKE;262LY-K5006
L909	61454-251-226	COIL CHOKE;8RDB 220M
L910	61454-251-476	COIL CHOKE;8RDB 470K
L911	61454-251-476	COIL CHOKE;8RDB 470K
L912	61454-251-476	COIL CHOKE;8RDB 470K
L913	62429-961-223	INDUCTOR-CHIP;LQH3N 221-K
L914	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L915	61454-251-476	COIL CHOKE;8RDB 470K
L916	61454-251-476	COIL CHOKE;8RDB 470K
Q901	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q902	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q903	62129-301-109	TRANSISTOR.CHIP;KSR 2103-(REEL)
Q904	62129-301-109	TRANSISTOR.CHIP;KSR 2103-(REEL)
Q905	62129-301-109	TRANSISTOR.CHIP;KSR 2103-(REEL)
Q906	62129-301-104	TRANSISTOR.CHIP;KSR 1103(REEL)
Q907	62129-301-104	TRANSISTOR.CHIP;KSR 1103(REEL)
Q908	62149-201-016	TRANSISTOR;2SB 1203S
Q909	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)
Q910	62129-301-120	TRANSISTOR.CHIP;2SB 1121(REEL)
Q911	62129-301-109	TRANSISTOR.CHIP;KSR 2103-(REEL)
Q912	62129-301-104	TRANSISTOR.CHIP;KSR 1103(REEL)
Q913	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q914	62139-601-655	FET;2SK 739
Q915	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
R901	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R902	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R903	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R904	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R905	61079-917-221	R-MG.CHIP;RMC 1/10 220-J
R906	61079-917-124	R-MG.CHIP;RMC 1/10 120K-J
R907	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R908	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R909	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R910	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R911	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R912	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R913	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R914	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R915	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R916	61079-917-124	R-MG.CHIP;RMC 1/10 120K-J
R917	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R918	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R919	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R920	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R921	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R922	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R923	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R924	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R925	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R926	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R927	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R928	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R929	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R930	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R931	61079-917-100	R-MG.CHIP;RMC 1/10 10-J
R932	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R933	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
T901	62829-501-123	COIL-CONVERTER;SAGAMI 001947004A
VR901	61249-922-763	VR-SEMI CHIP;EVM-7JSX30B53
VR902	61249-922-757	VR-SEMI CHIP;EVM-7JSX30B13
VR903	61249-922-771	VR-SEMI CHIP;EVM-7JSX30B52
W901	63349-900-007	CONNECTOR;TFC-B10Y-A1 10PIN
W902	63349-900-007	CONNECTOR;TFC-B10Y-A1 10PIN

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126	69063-213-150	ASSY VTR FUNCTION BOARD
CN508	63349-900-002	CONNECTOR-WAFER;CGP1703-0101
D501	62169-901-095	DIODE-CHIP;DAN202K (T96)
D502	62169-901-096	DIODE-CHIP;DAP202K (T96)
D503	62169-901-096	DIODE-CHIP;DAP202K (T96)
D504	62169-901-095	DIODE-CHIP;DAN202K (T96)
Q501	62129-101-110	TRANSISTOR.CHIP;KSR 1102 (REEL)
Q502	62129-101-110	TRANSISTOR.CHIP;KSR 1102 (REEL)
SW501	63519-103-103	SW-SLIDE;HSW 1061-01-010
SW502	63519-105-101	SW-TACT.CHIP;SKHMPS066A
SW503	63519-105-101	SW-TACT.CHIP;SKHMPS066A
SW504	63519-105-101	SW-TACT.CHIP;SKHMPS066A
SW505	63519-105-101	SW-TACT.CHIP;SKHMPS066A
SW506	63519-105-101	SW-TACT.CHIP;SKHMPS066A
SW508	63519-103-102	SW-SLIDE;HSW 1055-01-010
SW509	63519-105-101	SW-TACT.CHIP;SKHMPS066A
SW510	63519-103-104	SW-SLIDE;SSSS21B51A
W507	63054-311-030	BANDO CARD;BNCD-P=1.0-M-12-30

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
127	69063-213-146	ASSY MAIN BOARD
C101	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C102	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C103	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C104	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C105	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C106	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C107	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C108	61453-131-181	C-CERAMIC CHIP;0805 5A 181JAT 050M
C109	61453-131-222	C-CERAMIC.CHIP;0805 5 222JAT 050M
C110	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C111	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C112	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C113	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C114	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C115	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C116	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C117	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C118	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C119	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C123	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C124	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C125	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C126	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C131	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C132	61453-130-151	C-CERAMIC.CHIP;0805 5A 151JAT 050M
C133	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C134	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C135	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C136	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C138	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C139	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C140	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C141	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C145	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C148	61453-131-684	C-CERAMIC CHIP;0805 5C 681KAT 050M
C149	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C160	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C161	61454-243-471	C-ELEC.CHIP;ECE-V0JA470P
C162	61453-130-471	C-CERAMIC.CHIP;0805 5A 471KAT 050M
C163	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C165	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C199	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C431	61453-130-683	C-CERAMIC.CHIP;0805 5C 682KAT 050M
C432	61453-131-472	C-CERAMIC.CHIP;0805 5C 472KAT 050M
C433	61454-243-471	C-ELEC.CHIP;ECE-V0JA470P
C434	61453-131-472	C-CERAMIC.CHIP;0805 5C 472KAT 050M
C435	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C436	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C437	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C438	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C439	61454-245-947	C-ELEC.CHIP;ECE-V1HAR47R
C440	61453-131-152	C-CERAMIC.CHIP;0805 5C 152KAT 050M
C441	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C442	61453-131-222	C-CERAMIC.CHIP;0805 5 222JAT 050M
C443	61453-131-392	C-CERAMIC.CHIP;0805 5C 392KAT 050M
C444	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C445	61454-146-050	C-CERAMIC.CHIP;08055A050DAT050M
C446	61454-243-101	C-ELEC.CHIP;ECE-V0JA101P
C447	61454-243-101	C-ELEC.CHIP;ECE-V0JA101P
C448	61454-245-479	C-ELEC.CHIP;ECE-V1VA4R7R
C449	61453-130-471	C-CERAMIC.CHIP;0805 5A 471KAT 050M
C450	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C451	61454-246-292	C-ELEC.CHIP;ECE-V1HA2R2R
C452	61453-131-101	C-CERAMIC.CHIP;0805 5A 101JAT 050M
C453	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C454	61454-243-101	C-ELEC.CHIP;ECE-V0JA101P
C455	61454-146-050	C-CERAMIC.CHIP;08055A050DAT050M
C456	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C457	61453-131-472	C-CERAMIC.CHIP;0805 5C 472KAT 050M
C458	61454-137-393	C-CERAMIC.CHIP;08055A 393 MAT 050M
C459	61453-131-684	C-CERAMIC CHIP;0805 5C 681KAT 050M
C460	61453-117-822	C-CERAMIC.CHIP;08055C822K
C461	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C462	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C463	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C464	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C465	61454-246-292	C-ELEC.CHIP;ECE-V1HA2R2R
C466	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C467	61454-242-331	C-ELEC.CHIP;ECE-V0GA330R
C468	61454-243-101	C-ELEC.CHIP;ECE-V0JA101P
C469	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C470	61454-242-331	C-ELEC.CHIP;ECE-V0GA330R
C471	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C473	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C474	61453-131-222	C-CERAMIC.CHIP;0805 5 222JAT 050M
C501	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C502	61453-131-472	C-CERAMIC.CHIP;0805 5C 472KAT 050M
C503	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C504	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C505	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C506	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C507	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C508	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C509	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C510	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C511	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C512	61454-244-471	C-ELEC.CHIP;ECE-V1CA470P
C513	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C514	61454-241-104	C-FILM.CHIP;ECW-V1E104JS9
C515	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C516	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C517	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C518	61454-246-292	C-ELEC.CHIP;ECE-V1HA2R2R
C519	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C520	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C521	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C522	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C523	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C524	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C525	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C526	61454-244-471	C-ELEC.CHIP;ECE-V1CA470P
C527	61454-247-205	C-ELECTROLYTIC;OS COND 25SC 1M.K+TS
C528	61454-246-293	C-ELEC.CHIP;ECE-V1HA3R3R
C529	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C530	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C531	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C532	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C533	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C534	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C535	61454-244-101	C-ELEC.CHIP;ECE-V1CA100R
C536	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C537	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C538	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C539	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C540	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C541	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C542	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C543	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C544	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C545	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C546	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C548	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C549	61453-130-226	C-CERAMIC.CHIP;1206 5E 224ZAT 050M
C550	61453-131-222	C-CERAMIC.CHIP;0805 5 222JAT 050M
C551	61453-131-153	C-CERAMIC.CHIP;0805 5C 153JAT 050M
C552	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C553	61453-130-471	C-CERAMIC.CHIP;0805 5A 471KAT 050M
C554	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C555	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C556	61453-131-472	C-CERAMIC.CHIP;0805 5C 472KAT 050M
C557	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C558	61453-131-332	C-CERAMIC.CHIP;0805 5C 332KAT 050M
C559	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C560	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C561	61453-130-564	C-CERAMIC.CHIP;0805 5C 561KAT 050M
C562	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M

LOCA NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
C563	61453-131-152	C-CERAMIC.CHIP;0805 5C 152KAT 050M
C564	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C565	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C566	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C567	61453-130-041	C-CERAMIC.CHIP;CC3216 Y5U/C 474KB
C570	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C573	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C574	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C576	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C577	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C578	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C579	61453-130-683	C-CERAMIC.CHIP;0805 5C 682KAT 050M
C580	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C581	61647-805-339	C-ELEC;CEAP 25V 3.3M SE(2.5)
C617	61453-131-122	C-CERAMIC.CHIP;0805 5C 102JAT 050M
C621	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C622	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C623	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C624	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C625	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C626	61454-247-105	C-ELECTROLYTIC;OS COND 10SC 10M.K
C627	61647-804-220	C-ELEC;CEAP 16V 22M SE(2.5)
C628	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C629	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C630	61454-247-105	C-ELECTROLYTIC;OS COND 10SC 10M.K
C631	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C632	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C633	61628-309-100	C-TANTAL.CHIP;TAJA 225M 6R3
C634	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
CN101	A6013-0007	CONNECT FPC;00-6200-513-230-000
CN501	A6013-0007	CONNECT FPC;00-6200-513-230-000
CN502	A6013-0008	CONNECT FPC;00-6200-515-230-000
CN503	63349-900-003	CONNECTOR;CGP1704-0101
CN504	63349-900-003	CONNECTOR;CGP1704-0101
CN505	63349-900-009	CONNECTOR;CGP1602-0101
CN506	63349-900-001	CONNECTOR;CGP1702-0101
CN507	A6013-0006	CONNECT FPC;00-6200-512-230-000
D504	62169-901-096	DIODE-CHIP;DAP202K (T96)
D510	62169-901-095	DIODE-CHIP;DAN202K (T96)
D621	62169-106-012	DIODE-SCHOTTKY.CHIP;SB05-05CPTB REEL
D622	62169-106-012	DIODE-SCHOTTKY.CHIP;SB05-05CPTB REEL
D623	62169-901-096	DIODE-CHIP;DAP202K (T96)
FL431	64529-632-103	FILTER-CHIP;TH356BTK-K5037YED(1.5M BPF)
IC101	62119-121-033	IC-FP;CXA1202R-T3
IC431	62119-121-016	IC-FP;CXA 1237AR(T3)
IC501	67199-0010-00	MICOM IC;CXP80116-585Q
IC502	62119-701-077	IC;S-81350HG
IC503	62119-701-078	IC-FP;SCI7701YTA
IC504	62119-701-074	IC-FP;LB1631MT
IC505	62119-121-011	IC-FP;NJM2904M(TE3)
IC506	62119-121-037	IC-FP;CX20115A-T1
IC507	62119-121-036	IC-FP;CX20114-TP1
IC508	62119-121-035	IC-FP;CXA1127M-TP-1
IC509	62119-701-079	IC-FP;CXA-1204Q
IC510	62119-701-047	IC-FP;NJM2902M(TE2)
IC621	62119-701-075	IC-FP;MB3775PF-TF
L101	62429-962-080	INDUCTOR-CHIP;NL453232T 100-J
L102	62429-961-223	INDUCTOR-CHIP;LQH3N 221-K
L103	62429-961-104	INDUCTOR-CHIP;LQH3N 100-K
L104	62429-961-223	INDUCTOR-CHIP;LQH3N 221-K
L105	62429-961-223	INDUCTOR-CHIP;LQH3N 221-K
L106	62429-961-223	INDUCTOR-CHIP;LQH3N 221-K
L107	62429-961-223	INDUCTOR-CHIP;LQH3N 221-K
L431	62429-962-220	INDUCTOR-CHIP;NL322522T 221-J
L501	62429-961-474	INDUCTOR-CHIP;LQH3N 470-K
L502	62429-961-474	INDUCTOR-CHIP;LQH3N 470-K
L503	62429-962-331	INDUCTOR-CHIP;NL453232T 331-J
L504	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L505	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L506	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L621	61454-251-226	COIL CHOKE;8RDB 220M
L622	61454-251-476	COIL CHOKE;8RDB 470K
L623	61454-251-476	COIL CHOKE;8RDB 470K
PS502	62119-702-004	IC-PROTECTOR;50BV 0.4A ICP-N10/23118132
PS503	62119-702-007	IC-CIRCUIT PROTECTOR;ICP-N20
Q102	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q108	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q109	62129-301-123	TRANSISTOR.CHIP;2SC 2412
Q110	62129-301-123	TRANSISTOR.CHIP;2SC 2412
Q111	62129-301-121	TRANSISTOR.CHIP;2SA 1037K-QRS(T96)
Q112	62129-301-118	TRANSISTOR;2SA 1317 REEL
Q113	62129-301-121	TRANSISTOR.CHIP;2SA 1037K-QRS(T96)
Q114	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q116	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q117	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q431	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q432	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q433	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q434	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q435	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q436	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q437	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q438	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q503	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q504	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q506	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q507	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q515	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q516	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q517	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q518	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q519	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q520	62139-201-080	TRANSISTOR;2SB 962
Q521	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q522	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q524	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q525	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q526	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q527	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q528	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q529	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q530	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q536	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q537	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q538	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q539	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q540	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q550	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q551	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q552	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q553	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q554	62129-301-114	TRANSISTOR.CHIP;2SC 3898(REEL)
Q555	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q621	62129-301-104	TRANSISTOR.CHIP;KSR 1103(REEL)
Q622	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)
Q623	62129-301-120	TRANSISTOR.CHIP;2SB 1121(REEL)
Q624	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q625	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)
Q626	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)
Q627	62129-301-120	TRANSISTOR.CHIP;2SB 1121(REEL)
Q628	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q629	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
R102	61079-917-154	R-MG.CHIP;RMC 1/10 150K-J
R103	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R104	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R106	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R110	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R113	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R114	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R115	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R116	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R117	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R118	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R119	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R120	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R121	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R122	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R123	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J

LOCA.NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
R124	61079–917–338	R–MG.CHIP;RMC 1/10 33–J
R125	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R126	61079–917–152	R–MG.CHIP;RMC 1/10 1.5K–J
R127	61079–917–271	R–MG.CHIP;RMC 1/10 270–J
R128	61079–917–821	R–MG.CHIP;RMC 1/10W 820–J
R129	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R130	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R131	61079–917–822	R–MG.CHIP;RMC 1/10 8.2K–J
R132	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R133	61079–917–569	R–MG.CHIP;RMC 1/10 56–J
R134	61079–917–271	R–MG.CHIP;RMC 1/10 270–J
R135	61079–917–271	R–MG.CHIP;RMC 1/10 270–J
R136	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R137	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R138	61079–917–472	R–MG.CHIP;RMC 1/10 4.7K–J
R139	61079–917–561	R–MG.CHIP;RMC 1/10 560–J
R140	61079–917–471	R–MG.CHIP;RMC 1/10 470–J
R141	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R143	61079–917–823	R–MG.CHIP;RMC 1/10 82K–J
R151	61079–917–154	R–MG.CHIP;RMC 1/10 150K–J
R152	61079–917–338	R–MG.CHIP;RMC 1/10 33–J
R155	61079–917–272	R–MG.CHIP;RMC 1/10 2.7K–J
R156	61079–917–561	R–MG.CHIP;RMC 1/10 560–J
R157	61079–917–333	R–MG.CHIP;RMC 1/10 33K–J
R158	61079–917–391	R–MG.CHIP;RMC 1/10 390–J
R160	61079–917–272	R–MG.CHIP;RMC 1/10 2.7K–J
R161	61079–917–338	R–MG.CHIP;RMC 1/10 33–J
R162	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R431	61079–917–102	R–MG.CHIP;RMC 1/10 1K–J
R432	61079–917–102	R–MG.CHIP;RMC 1/10 1K–J
R433	61079–917–222	R–MG.CHIP;RMC 1/10 2.2K–J
R434	61079–917–153	R–MG.CHIP;RMC 1/10 15K–J
R435	61079–917–222	R–MG.CHIP;RMC 1/10 2.2K–J
R436	61079–917–272	R–MG.CHIP;RMC 1/10 2.7K–J
R437	61079–917–222	R–MG.CHIP;RMC 1/10 2.2K–J
R438	61079–917–472	R–MG.CHIP;RMC 1/10 4.7K–J
R439	61079–917–472	R–MG.CHIP;RMC 1/10 4.7K–J
R440	61079–917–472	R–MG.CHIP;RMC 1/10 4.7K–J
R442	61079–916–821	R–MG.CHIP;RMC 1/10 820–F
R443	61079–916–821	R–MG.CHIP;RMC 1/10 820–F
R444	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R445	61079–917–821	R–MG.CHIP;RMC 1/10W 820–J
R446	61079–917–271	R–MG.CHIP;RMC 1/10 270–J
R447	61079–917–102	R–MG.CHIP;RMC 1/10 1K–J
R448	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R449	61079–917–152	R–MG.CHIP;RMC 1/10 1.5K–J
R450	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R451	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R452	61079–917–471	R–MG.CHIP;RMC 1/10 470–J
R453	61079–917–121	R–MG.CHIP;RMC 1/10 120–J
R454	61079–917–822	R–MG.CHIP;RMC 1/10 8.2K–J
R455	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R456	61079–917–220	R–MG CHIP;RMC 1/10 22–J
R457	61079–917–123	R–MG.CHIP;RMC 1/10 12K–J
R458	61079–917–392	R–MG.CHIP;RMC 1/10 3.9K–J
R459	61079–917–222	R–MG.CHIP;RMC 1/10 2.2K–J
R460	61079–917–681	R–MG.CHIP;RMC 1/10 680–J
R461	61079–917–272	R–MG.CHIP;RMC 1/10 2.7K–J
R462	61079–917–332	R–MG.CHIP;RMC 1/10 3.3K–J
R463	61079–917–332	R–MG.CHIP;RMC 1/10 3.3K–J
R464	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R465	61079–917–272	R–MG.CHIP;RMC 1/10 2.7K–J
R466	61079–917–333	R–MG.CHIP;RMC 1/10 33K–J
R467	61079–917–183	R–MG.CHIP;RMC 1/10 18K–J
R468	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R469	61079–917–272	R–MG.CHIP;RMC 1/10 2.7K–J
R470	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R471	61079–917–183	R–MG.CHIP;RMC 1/10 18K–J
R475	61079–917–273	R–MG.CHIP;RMC 1/10 27K–J
R501	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R502	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R503	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R504	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R505	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R506	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R507	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R508	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R509	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R510	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R511	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R512	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R513	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R514	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R515	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R516	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R517	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R518	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R519	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R520	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R521	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R522	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R523	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R524	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R525	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R526	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R528	61079–917–684	R–MG.CHIP;RMC 1/10 680K–J
R530	61079–917–153	R–MG.CHIP;RMC 1/10 15K–J
R532	61079–917–682	R–MG.CHIP;RMC 1/10 6.8K–J
R533	61079–917–334	R–MG.CHIP;RMC 1/10 330K–J
R534	61079–917–333	R–MG.CHIP;RMC 1/10 33K–J
R535	61079–917–105	R–MG.CHIP;RMC 1/10 1M–J
R536	61079–917–123	R–MG.CHIP;RMC 1/10 12K–J
R537	61079–917–333	R–MG.CHIP;RMC 1/10 33K–J
R538	61079–917–153	R–MG.CHIP;RMC 1/10 15K–J
R539	61079–917–105	R–MG.CHIP;RMC 1/10 1M–J
R540	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R541	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R542	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R543	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R544	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R545	61079–917–474	R–MG.CHIP;RMC 1/10 470K–J
R546	61079–917–473	R–MG.CHIP;RMC 1/10 47K–J
R547	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R548	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R549	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R550	61079–917–474	R–MG.CHIP;RMC 1/10 470K–J
R551	61079–917–102	R–MG.CHIP;RMC 1/10 1K–J
R552	61079–917–224	R–MG.CHIP;RMC 1/10 220K–J
R553	61079–917–224	R–MG.CHIP;RMC 1/10 220K–J
R554	61079–217–221	R–MG.CHIP;RMC 1/8 220–J
R555	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R556	61079–917–822	R–MG.CHIP;RMC 1/10 8.2K–J
R557	61079–917–122	R–MG.CHIP;RMC 1/10 1.2K–J
R558	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R559	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R560	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R561	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R562	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R563	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R564	61079–917–104	R–MG.CHIP;RMC 1/10 100K–J
R565	61079–917–334	R–MG.CHIP;RMC 1/10 330K–J
R566	61079–917–105	R–MG.CHIP;RMC 1/10 1M–J
R567	61079–917–394	R–MG.CHIP;RMC 1/10 390K–J
R568	61079–917–474	R–MG.CHIP;RMC 1/10 470K–J
R570	61079–917–103	R–MG.CHIP;RMC 1/10 10K–J
R571	61079–917–102	R–MG.CHIP;RMC 1/10 1K–J
R572	61079–917–564	R–MG.CHIP;RMC 1/10 560K–J
R574	61079–917–821	R–MG.CHIP;RMC 1/10W 820–J
R575	61079–917–154	R–MG.CHIP;RMC 1/10 150K–J
R576	61079–917–333	R–MG.CHIP;RMC 1/10 33K–J
R577	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R578	61079–917–223	R–MG.CHIP;RMC 1/10 22K–J
R579	61079–917–101	R–MG.CHIP;RMC 1/10 100–J
R580	61079–917–271	R–MG.CHIP;RMC 1/10 270–J
R581	61079–917–153	R–MG.CHIP;RMC 1/10 15K–J
R582	61079–917–229	R–MG.CHIP;RMC 1/10 2.2–J
R583	61079–917–229	R–MG.CHIP;RMC 1/10 2.2–J
R584	61079–917–229	R–MG.CHIP;RMC 1/10 2.2–J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
Q415	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q416	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q417	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q418	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q419	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q420	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q421	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q422	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q423	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q424	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
R301	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R302	61079-917-912	R-MG CHIP;RMC 1/10 9.1K-J
R303	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R304	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R305	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R306	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R307	61079-917-243	R-MG CHIP;RMC 1/10 24K-J
R308	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R309	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R310	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R311	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R312	61079-917-243	R-MG CHIP;RMC 1/10 24K-J
R313	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R314	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R315	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R316	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R317	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R318	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R319	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R320	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R321	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R322	61079-917-622	R-MG.CHIP;RMC 1/10 6.2K-J
R323	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R324	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R325	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R326	61079-917-391	R-MG.CHIP;RMC 1/10 390-J
R327	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R328	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R329	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R330	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R331	61079-917-563	R-MG.CHIP;RMC 1/10 56K-J
R332	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R333	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R334	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R335	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R336	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R337	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R338	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R339	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R340	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R341	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R342	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R343	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R344	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R345	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R346	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R347	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R348	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R349	61079-917-162	R-MG.CHIP;RMC 1/10 1.6K-J
R350	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R351	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R352	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R353	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R354	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R355	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R356	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R357	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R358	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R359	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R360	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R361	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R362	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R363	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R364	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R365	61079-917-184	R-MG.CHIP;RMC 1/10 180K-J
R366	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R367	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R368	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R369	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R401	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R402	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R403	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R404	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R405	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R406	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R407	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R408	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R409	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R410	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R411	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R412	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R413	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R414	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R415	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R416	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R417	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R418	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R419	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R420	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R421	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R422	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R423	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R424	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R425	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R426	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R427	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R428	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R429	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R430	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R431	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R432	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R433	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R434	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R435	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R436	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R437	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R438	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R439	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R440	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R441	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R442	61079-917-754	R-MG.CHIP;RMC 1/10 750K-J
R443	61079-917-684	R-MG.CHIP;RMC 1/10 680K-J
R444	61079-917-432	R-MG.CHIP;RMC 1/10 4.3K-J
R445	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R446	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R447	61079-917-512	R-MG.CHIP;RMC 1/10 5.1K-J
R448	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R449	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R450	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R451	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R452	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R453	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R454	61079-917-912	R-MG CHIP;RMC 1/10 9.1K-J
R455	61079-917-362	R-MG.CHIP;RMC 1/10 3.6K-J
R456	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R457	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R458	61079-917-202	R-MG CHIP;RMC 1/10 2K-J
R459	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R460	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R464	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R465	61079-917-162	R-MG.CHIP;RMC 1/10 1.6K-J
R466	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R467	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R468	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R469	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R470	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R471	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R472	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R473	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R474	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R475	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R476	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R477	61079-917-684	R-MG.CHIP;RMC 1/10 680K-J
R478	61079-917-564	R-MG.CHIP;RMC 1/10 560K-J
R479	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R480	61079-917-303	R-MG.CHIP;RMC 1/10 300K-J
R481	61079-917-753	R-MG.CHIP;RMC 1/10 75K-J
R482	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R483	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R484	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R485	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R486	61079-917-184	R-MG.CHIP;RMC 1/10 180K-J
R487	61079-917-134	R-MG.CHIP;RMC 1/10 130K-J
R488	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R489	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R490	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R491	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R492	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
VR301	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR302	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR303	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR304	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR305	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR306	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR307	61249-922-758	VR-SEMI CHIP;EVM-7JSX30B14
VR308	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR309	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR310	61249-922-769	VR-SEMI CHIP;EVM-7JSX30B54
VR311	61249-922-761	VR-SEMI CHIP;EVM-7JSX30B24
VR401	61249-922-758	VR-SEMI CHIP;EVM-7JSX30B14
VR402	61249-922-758	VR-SEMI CHIP;EVM-7JSX30B14
VR403	61249-922-759	VR-SEMI CHIP;EVM-7JSX30B15
VR404	61249-922-759	VR-SEMI CHIP;EVM-7JSX30B15
VR405	61249-922-759	VR-SEMI CHIP;EVM-7JSX30B15
VR406	61249-922-759	VR-SEMI CHIP;EVM-7JSX30B15
VR407	61249-922-761	VR-SEMI CHIP;EVM-7JSX30B24
VR408	61249-922-761	VR-SEMI CHIP;EVM-7JSX30B24

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128	69063-213-170	ASSY MATRIX BOARD
C101	61628-269-221	C-TANTAL.CHIP;TAJC226M006R
C102	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C104	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C105	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C106	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C107	61628-269-090	C-TANTAL.CHIP;TAJB475M010R
C108	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C109	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C110	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C111	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C112	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C113	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C114	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C115	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C116	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C117	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C118	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C119	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C120	61628-269-200	C-TANTAL.CHIP;TAJA474M025R
C121	61628-269-471	C-TANTAL.CHIP;TAJD476M006R
C122	61453-130-560	C-CERAMIC.CHIP;0805 5A 560JAT 050M
C123	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C124	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C125	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C126	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C127	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C128	61628-269-090	C-TANTAL.CHIP;TAJB475M010R
C129	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C130	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C131	61628-269-221	C-TANTAL.CHIP;TAJC226M006R
C132	61628-269-221	C-TANTAL.CHIP;TAJC226M006R
C133	61628-269-090	C-TANTAL.CHIP;TAJB475M010R
C134	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C135	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C136	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C137	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C138	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C139	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C140	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C141	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C142	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C143	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C144	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C145	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C146	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C147	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C148	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C149	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C150	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C151	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C152	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C153	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C154	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C155	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C156	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C157	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C158	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C159	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C160	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C161	61628-269-090	C-TANTAL.CHIP;TAJB475M010R
C162	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C163	61453-131-222	C-CERAMIC.CHIP;0805 5 222JAT 050M
C164	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C165	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C166	61628-269-090	C-TANTAL.CHIP;TAJB475M010R
C167	61453-130-151	C-CERAMIC.CHIP;0805 5A 151JAT 050M
C168	61453-130-392	C-CERAMIC.CHIP;0805 5A 390JAT 050M
C169	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C170	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C171	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C172	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C173	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C174	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C175	61453-131-751	C-CERAMIC.CHIP;0805 5A 750JAT 050M
C176	61453-130-121	C-CERAMIC.CHIP;0805 5A 121JAT 050M
C177	61453-130-200	C-CERAMIC.CHIP;0805 5A 200JAT 050M
C178	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C179	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C180	61628-269-221	C-TANTAL.CHIP;TAJC226M006R
C181	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C182	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C183	61628-269-090	C-TANTAL.CHIP;TAJB475M010R
C184	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C185	61453-130-226	C-CERAMIC.CHIP;1206 5E 224ZAT 050M
C186	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C187	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
CA101	63054-310-019	BANCARD;BNCD-P=1.0-M-19-70
CN101	63349-601-413	CONNECTOR-WAFER;53022-0410
CN102	63349-601-416	CONNECTOR-WAFER;53022-1010
CN103	63349-601-417	CONNECTOR-WAFER;53022-1310
FL101	64529-632-110	LC FILTER.CHIP;TH356LSM-K5057UND=PI 3.5MHZ L
FL102	64529-632-107	LC FILTER.CHIP;TH356LSM-K5056TTD=PI 4.3MHZ L
IC101	62119-701-097	IC-FP;CXA1337Q(T6)
IC103	62119-121-043	IC-FP;CXA1338Q
IC104	62119-121-047	IC-FP;CXL1503M(T1)
IC105	62119-121-048	IC-FP;CXL1504M(T1)
L101	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L102	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L103	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L104	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L105	62429-962-120	INDUCTOR.CHIP;NL322522 120J
Q104	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q105	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q106	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)

LOCA.NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
Q107	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q108	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q109	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q110	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q111	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q112	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q113	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q114	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q115	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q116	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q117	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q118	62129-301-074	TRANSISTOR.CHIP;DTC 124TK(TF96)
Q119	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q120	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q121	62129-301-042	TRANSISTOR.CHIP;XN6401-(TX)(DUAL)
Q122	62129-301-042	TRANSISTOR.CHIP;XN6401-(TX)(DUAL)
Q123	62129-301-043	TRANSISTOR.CHIP;XN1501-(TX)(DUAL)
Q124	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q125	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q126	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q127	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q128	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q129	62129-301-042	TRANSISTOR.CHIP;XN6401-(TX)(DUAL)
Q130	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q131	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
R103	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R104	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R107	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R108	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R109	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R110	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R111	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R112	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R113	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R114	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R115	61079-917-474	R-MG.CHIP;RMC 1/10 470K-J
R116	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R117	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R118	61079-917-184	R-MG.CHIP;RMC 1/10 180K-J
R119	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R120	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R121	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R122	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R123	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R124	61079-917-622	R-MG.CHIP;RMC 1/10 6.2K-J
R125	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R126	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R127	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R128	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R129	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R130	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R131	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R132	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R133	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R134	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R135	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R136	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R137	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R138	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R139	61079-917-563	R-MG.CHIP;RMC 1/10 56K-J
R140	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R141	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R142	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R143	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R144	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R145	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R146	61079-917-181	R-MG.CHIP;RMC 1/10 180-J
R147	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R148	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R149	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R150	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R151	61079-917-912	R-MG CHIP;RMC 1/10 9.1K-J
R152	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R153	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R154	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R155	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R156	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R157	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R158	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R159	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R160	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R161	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R162	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R163	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R164	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R165	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R166	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R167	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R168	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R169	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R170	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R171	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R172	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R173	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R174	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R175	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R176	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R177	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R178	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R179	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R180	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R181	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R182	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R183	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R184	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R185	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R186	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R187	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R188	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R189	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R190	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R191	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R192	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R193	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R194	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R195	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R196	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R197	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R198	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R199	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R200	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R201	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R202	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R203	61079-917-563	R-MG.CHIP;RMC 1/10 56K-J
R204	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R205	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
VR101	61249-922-761	VR-SEMI CHIP;EVM-7JSX30B24
VR102	61249-922-761	VR-SEMI CHIP;EVM-7JSX30B24
VR103	61249-922-761	VR-SEMI CHIP;EVM-7JSX30B24
VR104	61249-922-761	VR-SEMI CHIP;EVM-7JSX30B24
W101	63053-917-470	LEAD CONNECTOR ASSY;1533 #28 B WHT 100

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129	69063-213-169	ASSY DRIVE BOARD
B001	62429-014-337	CHIP-FERRITE BEAD;HF50ACB322513-T
B002	62429-014-337	CHIP-FERRITE BEAD;HF50ACB322513-T
C001	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C002	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C003	61454-243-102	C-ELEC.CHIP;ECE-V1EA100P
C004	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C005	61454-243-102	C-ELEC.CHIP;ECE-V1EA100P
C006	61454-243-102	C-ELEC.CHIP;ECE-V1EA100P
C007	61628-269-070	C-TANTAL.CHIP;TAJB335M016R
C008	61453-131-392	C-CERAMIC.CHIP;0805 5C 392KAT 050M
C009	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C010	61628-269-070	C-TANTAL.CHIP;TAJB335M016R

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
C011	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C012	61453-130-041	C-CERAMIC.CHIP;CC3216 Y5U/C 474KB
C013	61628-269-070	C-TANTAL.CHIP;TAJB335M016R
C014	61454-243-471	C-ELEC.CHIP;ECE-V0JA470P
C015	61628-269-070	C-TANTAL.CHIP;TAJB335M016R
C016	61628-269-070	C-TANTAL.CHIP;TAJB335M016R
C017	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C018	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C019	61454-246-293	C-ELEC.CHIP;ECE-V1HA3R3R
C020	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C021	61453-131-181	C-CERAMIC CHIP;0805 5A 181JAT 050M
C022	61628-319-105	C-TANTAL.CHIP;TAJB 105M 035
C023	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C024	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C025	61454-245-479	C-ELEC.CHIP;ECE-V1VA4R7R
C026	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C027	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C028	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C029	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C030	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C031	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C032	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C033	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C034	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C035	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C036	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C037	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C039	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C040	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C041	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C042	61454-245-479	C-ELEC.CHIP;ECE-V1VA4R7R
C043	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C044	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C045	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C046	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C047	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C048	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C049	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT 050M
C050	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT 050M
C051	61454-243-220	C-ELEC.CHIP;ECE-V1CA220P
C052	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C053	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C054	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
C055	61453-131-102	C-CERAMIC.CHIP;0805 5C 102KAT 050M
CN001	63349-601-641	CONNECTOR-HOUSING;52024-0410
CN002	63344-111-165	CONNECTOR-HOUSING;52024-1010
CN003	63344-111-170	CONNECTOR-HOUSING;52024-1310
CN004	63349-606-140	CONNECTOR-WAFER;53020-1410
CT001	61829-301-302	C-TRIMMER;ECR-LB030E12
D001	62169-901-076	DIODE.CHIP;MA141WA-(TX)
D002	62169-901-077	DIODE.CHIP;MA110-(TX)
D003	62169-901-077	DIODE.CHIP;MA110-(TX)
D004	62169-901-094	DIODE-CHIP(VARACTOR);IT32-T8-V REEL
D005	62169-901-060	DIODE.CHIP;KDS196S(REEL)
D006	62169-901-060	DIODE.CHIP;KDS196S(REEL)
IC002	62119-701-099	IC-FP;CXD1250M(T6)
IC003	62119-701-098	IC-FP;CXD1156Q(T6)
IC004	62119-121-039	IC-FP;CXD1159Q(T3)
L001	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L002	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L003	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L004	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L005	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L006	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
Q001	62129-301-055	TRANSISTOR.CHIP;2SC 4211L6-TL
Q002	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q003	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q004	62139-601-657	FET;2SK 300-3(T7)
Q005	62129-301-055	TRANSISTOR.CHIP;2SC 4211L6-TL
Q006	62129-301-067	TRANSISTOR.CHIP;2SC 4168-3-TB
Q007	62129-301-058	TRANSISTOR.CHIP;2SA 1669-TB
Q008	62129-301-058	TRANSISTOR.CHIP;2SA 1669-TB
Q009	62129-301-067	TRANSISTOR.CHIP;2SC 4168-3-TB
Q010	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R001	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R002	61079-917-274	R-MG.CHIP;RMC 1/10 270K-J
R003	61079-917-563	R-MG.CHIP;RMC 1/10 56K-J
R004	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R005	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R006	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R007	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R008	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R009	61079-917-511	R-MG.CHIP;RMC 1/10 510-J
R010	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R011	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R012	61079-917-184	R-MG.CHIP;RMC 1/10 180K-J
R013	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R014	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R015	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R016	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R017	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R018	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R019	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R020	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R021	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R022	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R023	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R024	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R025	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R026	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R027	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R028	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R029	61079-917-000	R-MG.CHIP;RMC 1/10 000
R030	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R031	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R032	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R033	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R034	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R035	61079-917-100	R-MG.CHIP;RMC 1/10 10-J
R036	61079-917-100	R-MG.CHIP;RMC 1/10 10-J
R037	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R038	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R039	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R040	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R041	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R042	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R043	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R044	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R045	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R046	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R047	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R048	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R049	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R050	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R051	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R052	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R053	61079-917-000	R-MG.CHIP;RMC 1/10 000
VR001	61246-107-473	VR-SEMI;RH0422CS4J0SA
X001	64539-012-535	CRYSTAL-OSC;JX0-3(28.375)
X002	64539-012-534	CRYSTAL;HC-49/U-S(17.735)

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130	69063-213-184	ASSY S/W BOARD
D601	62169-901-074	DIODE.CHIP;MA151WK-(TX)
D602	62169-901-074	DIODE.CHIP;MA151WK-(TX)
D603	62169-901-060	DIODE.CHIP;KDS196S(REEL)
S601	63519-105-101	SW-TACT.CHIP;SKHMPS066A
S602	63519-105-101	SW-TACT.CHIP;SKHMPS066A
S603	63519-105-101	SW-TACT.CHIP;SKHMPS066A
S604	63519-105-101	SW-TACT.CHIP;SKHMPS066A
S605	63519-105-101	SW-TACT.CHIP;SKHMPS066A
S606	63519-105-101	SW-TACT.CHIP;SKHMPS066A

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
131	69063-213-183	ASSY CAMERA FUNCTION BOARD
C602	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C603	61628-309-100	C-TANTAL.CHIP;TAJA 225M 6R3
C604	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C605	61628-309-100	C-TANTAL.CHIP;TAJA 225M 6R3
C606	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C607	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C608	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C609	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C610	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
CA601	63054-310-025	BANCARD;BNCD-P=1.0-A-(0.1X0.5)-25-30(C=0.5)
CA602	63054-310-006	BANCARD;BNCD-P=1.0-A-(0.1X0.5)-6-30(C=0.5)
CT601	61829-302-701	C-TRIMMER.CHIP;TZB04P300BA 006
D604	62169-901-060	DIODE.CHIP;KDS196S(REEL)
D605	62169-901-074	DIODE.CHIP;MA151WK-(TX)
D606	62169-901-074	DIODE.CHIP;MA151WK-(TX)
D607	62169-901-074	DIODE.CHIP;MA151WK-(TX)
D608	62169-901-074	DIODE.CHIP;MA151WK-(TX)
D609	62169-901-060	DIODE.CHIP;KDS196S(REEL)
D610	62169-901-078	DIODE-SHOTTKY.CHIP;SB01-05CP-(TB)
IC601	62119-701-111	IC-FP(MICOM);UPD 75004GB-680-3B4
L601	62429-961-684	INDUCTOR.CHIP;LQH3N 680-K
Q601	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q602	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q603	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q604	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q605	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q606	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q607	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q608	62139-601-656	FET;2SK 209 TE85L
Q609	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q610	62129-301-071	TRANSISTOR.CHIP;DTC 144WK(TF96)
R601	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R602	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R603	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R604	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R605	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R606	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R607	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R608	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R609	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R610	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R611	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R612	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R613	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R614	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R615	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R616	61079-917-184	R-MG.CHIP;RMC 1/10 180K-J
R617	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R618	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R619	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R620	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R621	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R623	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R624	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R625	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R626	61079-917-225	R-MG,CHIP;RMC 1/10 2.2M-J
R627	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R628	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R629	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R630	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R631	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R632	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R633	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R637	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R640	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R641	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R642	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R643	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R644	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R645	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R646	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R649	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R650	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R659	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R660	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R661	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R662	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R663	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R664	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R665	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R666	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R667	61079-917-000	R-MG.CHIP;RMC 1/10 000
S607	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S608	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S609	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S610	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S611	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S612	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S613	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S614	63519-103-104	SW-SLIDE;SSSS21B51A
S615	63519-105-102	SW-TACT.CHIP;SKHMPT017A
S616	63519-105-102	SW-TACT.CHIP;SKHMPT017A
X601	64539-021-010	CRYSTAL;P-3(32.768KHZ)
X602	64539-102-350	CERAMIC RESONATOR;EFO-GC4194A4

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LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
137	69063-213-182	ASSY DIGITAL BOARD
C501	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C502	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C503	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C504	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C505	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT 050M
C506	61628-269-221	C-TANTAL.CHIP;TAJC226M006R
C507	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C508	61453-131-330	C-CERAMIC.CHIP;0805 5A 330JAT 050M
C509	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R
C510	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT 050M
C511	61454-136-120	C-CERAMIC.CHIP;0805 5A 120JAT 050M
C512	61453-131-821	C-CERAMIC CHIP;0805 5A 820JAT 050M
C513	61628-269-040	C-TANTAL.CHIP;TAJA105M016R
C514	61628-269-070	C-TANTAL.CHIP;TAJB335M016R
C515	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C516	61453-130-226	C-CERAMIC.CHIP;1206 5E 224ZAT 050M
C517	61453-130-560	C-CERAMIC.CHIP;0805 5A 560JAT 050M
C518	61628-269-221	C-TANTAL.CHIP;TAJC226M006R
C519	61628-269-221	C-TANTAL.CHIP;TAJC226M006R
C520	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
C521	61453-130-104	C-CERAMIC.CHIP;0805 5E 104ZAT 050M
CA501	63054-310-026	BANCARD;BNCD-P=1.0-M-26-30(C=0.5)
CN501	63349-603-020	CONNECTOR-WAFER;53015-0210
CN502	63349-603-040	CONNECTOR-WAFER;53015-0410
CN503	63344-111-171	CONNECTOR-HOUSING;52022-1410
CN504	63349-604-130	CONNECTOR WAFER;53014-0310
CN505	63349-604-170	CONNECTOR WAFER;53014-0710
D501	62169-901-060	DIODE.CHIP;KDS196S(REEL)
IC501	62119-701-093	IC-FP;SSI5002Q
IC502	62119-701-133	IC-FP;KM6264 BLG-10L(REEL)
IC503	62119-701-094	IC-FP;TC74HC132AF(EL)
IC504	62119-701-061	IC-FP;NJM311M(TE3)
IC505	62119-402-030	IC-FP;NJM3414M(TE3)
L501	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L502	62429-961-103	INDUCTOR-CHIP;LQH3N 101-K
L503	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L504	62429-961-224	INDUCTOR-CHIP;LQH3N 220-K
L505	62429-960-831	INDUCTOR.CHIP;LQH3N 330-K
Q501	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q502	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q503	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q504	62129-301-074	TRANSISTOR.CHIP;DTC 124TK(TF96)
Q505	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
R501	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R502	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R503	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R504	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R505	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R506	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R507	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R508	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R509	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R510	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R511	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R512	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R513	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R514	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R515	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R516	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R517	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R518	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R519	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R520	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R521	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R522	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R523	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R524	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R525	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R526	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R527	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R528	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R529	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R530	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R531	61079-917-752	R-MG CHIP;RMC 1/10 7.5K-J
R532	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R533	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R534	61079-917-124	R-MG.CHIP;RMC 1/10 120K-J
R535	61079-917-124	R-MG.CHIP;RMC 1/10 120K-J
R536	61079-917-391	R-MG.CHIP;RMC 1/10 390-J
R537	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R538	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R539	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R540	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R541	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R542	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R543	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R544	61079-917-184	R-MG.CHIP;RMC 1/10 180K-J
R545	61079-917-184	R-MG.CHIP;RMC 1/10 180K-J
VR501	61249-922-759	VR-SEMI CHIP;EVM-7JSX30B15
VR502	61249-922-757	VR-SEMI CHIP;EVM-7JSX30B13
VR503	61246-107-202	VR-SEMI;RH0422CJ3JOMA(2.2K)

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175	69061-701-118	ASSY EVF BOARD
C701	61628-349-104	C-TANTAL.CHIP;TAJA 104K 35R
C702	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C703	61629-260-051	C-TANTAL;TAI0J 470
C704	61453-130-223	C-CERAMIC.CHIP;0805 5C 223KAT 050M
C705	61454-246-010	C-ELEC.CHIP;ECE-V1HA010R
C706	61647-708-229	C-ELEC;CEAP 50V 2.2M SS(2.5)
C707	61647-706-479	C-ELEC;CEAP 35V 4.7M SS(2.5)
C708	61647-704-101	C-ELEC;CEAP 16V 100M SS(2.5)
C709	61617-503-150	C-ELECTROLYTIC;OS COND 10SC 15M(M)+TS
C710	61647-704-470	C-ELEC;CEAP 16V 47M SS(2.5)
C711	61407-100-331	C-CERAMIC;HCYB3A 331KDB
C712	61507-121-420	C-POLYESTER;CQ921M TAPG 100V 392-K
C713	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG
C714	61453-130-151	C-CERAMIC.CHIP;0805 5A 151JAT 050M
C715	61647-709-100	C-ELEC;CEAP 63V 10M SS(2.5)
C716	61407-100-151	C-CERAMIC;HCYB3A 151KDB
CA701	63053-916-352	LEAD CONNECTOR ASSY;1429 #28 CGP 1204
CN701	63349-900-010	CONNECTOR;CGP1604-0101
CN702	63349-900-009	CONNECTOR;CGP1602-0101
CN703	63349-900-009	CONNECTOR;CGP1602-0101
CN704	63349-900-009	CONNECTOR;CGP1602-0101
CN705	63343-500-011	SOCKET-CRT;S6-510T-622
D701	62169-901-043	DIODE.CHIP;MA151K-(TX)
D702	62169-901-081	DIODE.CHIP;MA152WA-(TX)
FT701	62139-602-011	FBT;ETF-09L11A

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
IC701	62119-121-049	IC-FP;AN2512S-(E2)
L701	62429-829-174	COIL-PEAKING;EL0405RA 33uH-J
L702	62429-014-304	COIL-LINEARITY;ELH-5L218
Q701	62129-301-172	TRANSISTOR.CHIP;2SD 968A-R/S(TX)
Q702	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
R701	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R702	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R703	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R704	61079-917-399	R-MG.CHIP;RMC 1/10 3.9-J
R705	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R707	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R708	61079-917-338	R-MG.CHIP;RMC 1/10 33-J
R709	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R710	61079-917-474	R-MG.CHIP;RMC 1/10 470K-J
R711	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R712	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R713	61079-917-180	R-MG.CHIP;RMC 1/10 18-J
R714	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R715	61079-917-684	R-MG.CHIP;RMC 1/10 680K-J
R716	61079-917-623	R-MG.CHIP;RMC 1/10 62K-J
R717	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R718	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R719	61079-917-684	R-MG.CHIP;RMC 1/10 680K-J
R720	61079-917-225	R-MG,CHIP;RMC 1/10 2.2M-J
R721	61079-917-225	R-MG,CHIP;RMC 1/10 2.2M-J
R722	61079-917-474	R-MG.CHIP;RMC 1/10 470K-J
R723	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R724	61079-917-394	R-MG.CHIP;RMC 1/10 390K-J
R725	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R726	61079-917-000	R-MG.CHIP;RMC 1/10 000
RT701	62189-601-137	THERMISTER;ERT-D3FGL501S
VR701	61203-104-020	VR-ARRAY;BCS-0211-Y0004-02
VR702	61249-403-226	VR-SEMI;RH0622CJ6JOSA(2.2MB)

7-3-3. Accessories

ITEM BUYER	BATTERY - PACK	DC CABLE	RF-UNIT	ANTENNA SELECTOR	POWER AC ADAPTOR	SHOULDER - STRAP	LITHIUM BATTERY PACK
S.E.G	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
QUE	64539-502-071	63054-410-041	62569-003-012	63174-600-040	63379-600-079	67853-600-210	64539-502-105
S.E.F	A3067-0001	63054-410-041	62569-003-011	63174-600-040	A7008-0014	67853-600-210	64539-502-105
OTTO	64719-036-225	63054-410-041	67179-0003-00	63174-600-040	A7008-0004	67853-600-210	64539-502-105
AMFO	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
S.E.U.K	64539-502-072	63054-410-041	62569-003-011	63174-600-040	A7008-0005	67853-600-210	64539-502-105
DITRON	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
BUJE	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
NSI	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
SECOSA	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
WELTINEX	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
BARCOM	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
ORTEX	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
SIDUS	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
FRIGO	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
L/RIEDER	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
SEAU	64539-502-072	63054-410-041	62569-003-011	63174-600-040	A7008-0009	67853-600-210	64539-502-105
SEH	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
APS	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
APS (M)	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
SEHK	64539-052-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
JUMA	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
AL-ANDALUS	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
ISSAMURA	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
SAHA	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
SETAS	A3067-0001	63054-410-041	62569-003-011	63174-600-040	A7008-0014	67853-600-210	64539-502-105
ZAMA	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
SEP	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105
REVUE	A3067-0001	63054-410-041	62569-003-011	63174-600-040	A7008-0014	67853-600-210	64539-502-105
ORI	64539-502-072	63054-410-041	62569-003-011	63174-600-040	63379-600-084	67853-600-210	64539-502-105

8. EXPLODED VIEWS

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8-1. Cabinet Assembly ------------------ 8-2

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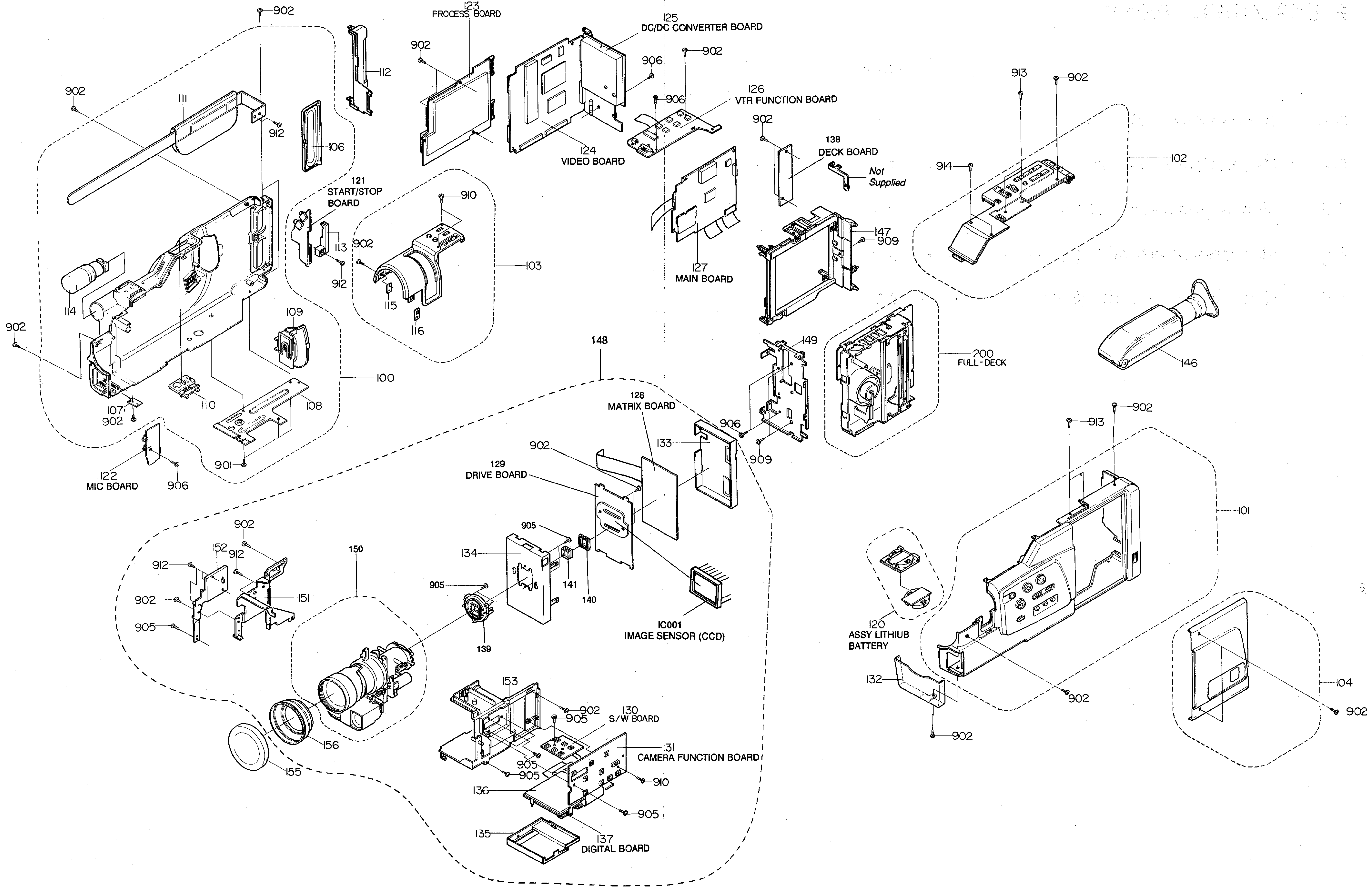
8-4. Mechanism Assembly (3) ------------ 8-6

8-5. Electronic Viewfinder (E.V.F) ---------- 8-7

8-1. Cabinet Assembly


902
123
PROCESS BOARD
125
DC/DC CONVERTER BOARD
902
906
902
112
902
111
912
106
906
126
VTR FUNCTION BOARD
902
124
VIDEO BOARD
138
DECK BOARD
Not Supplied
913
902
914
102
121
START/STOP BOARD
910
113
902
912
103
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116
114
109
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100
107
902
110
108
127
MAIN BOARD
147
909
149
200
FULL-DECK
146
148
128
MATRIX BOARD
906
133
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913
122
MIC BOARD
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901
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129
DRIVE BOARD
101
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152
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912
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905
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141
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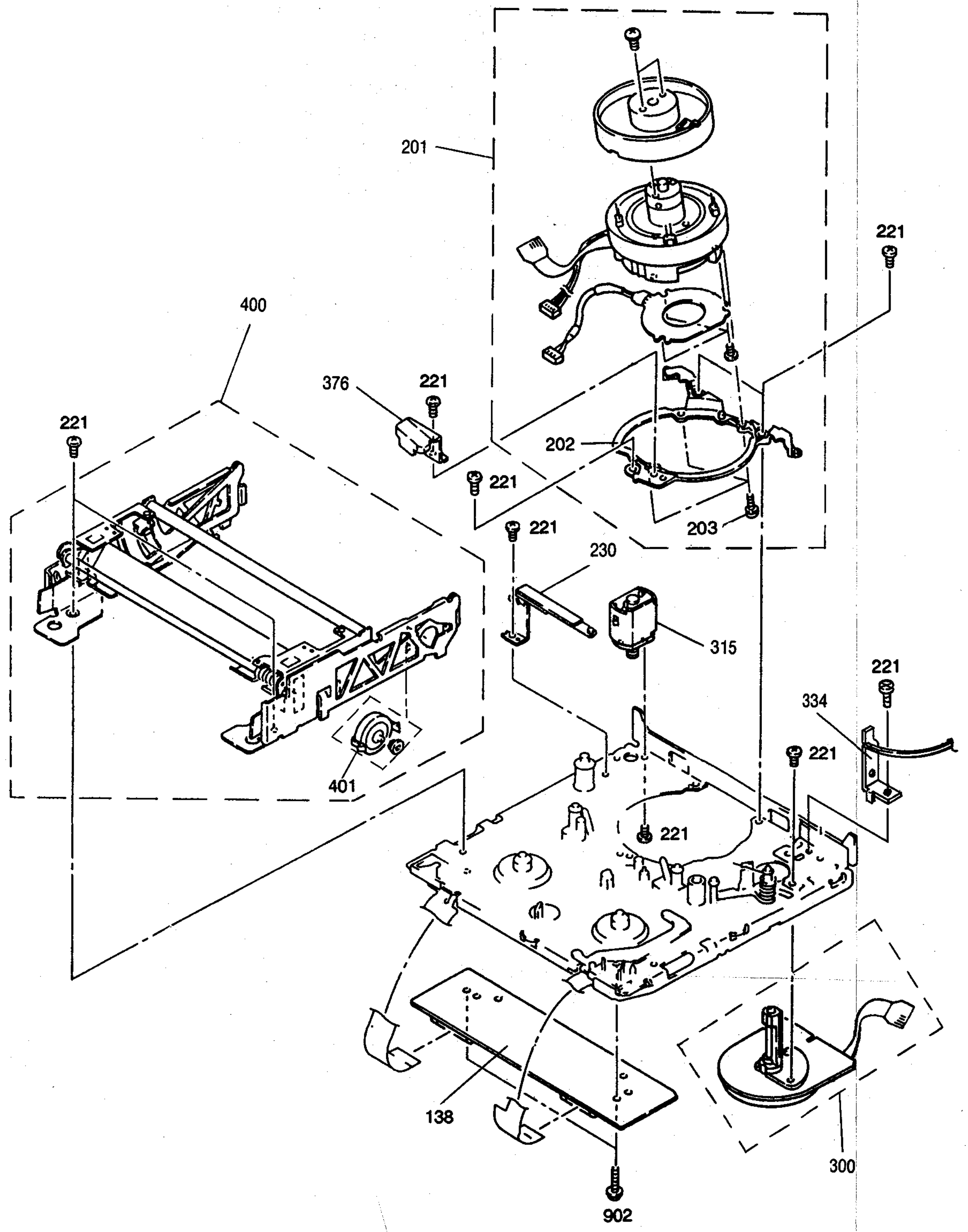
139
IC001
IMAGE SENSOR (CCD)
120
ASSY LITHIUB BATTERY
132
902
902
104
902
153
902
905
130
S/W BOARD
131
CAMERA FUNCTION BOARD
905
905
910
156
155
136
905
135
137
DIGITAL BOARD

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION	REMARK
100	69064-003-001	ASSY-BODY LOWER;VC-E805P	
101	69064-003-002	ASSY-BODY UPPER;VC-E805P	
	69063-213-368	ASSY-BODY UPPER;VC-E805P/OTTO	
102	69063-213-373	ASSY-BODY TOP;VC-E805P	
	69063-213-370	ASSY-BODY TOP;VC-E805P/OTTO	
	69064-003-003	ASSY-BODY TOP;VC-E805P/ORT, SID	
103	69064-003-004	ASSY-COVER LENS;VC-E805P	
104	69063-213-372	ASSY-HOUSING COVER;VC-E805P	
	69063-213-369	ASSY-HOUSING COVER;VC-E805P/OTTO	
	69063-003-005	ASSY-HOUSING COVER;VC-E805P/ORT, SID	
106	67642-606-510	DOOR-JACK;ABS 94HB(HF380 HF0660I)	
107	66614-635-210	BRACKET-BASE;SPG T0.8	
108	66613-610-310	BRACKET-TRIPOD;SPG T1.2	
109	69063-213-271	ASSY REC/STOP;BODY LOWER	
110	69063-213-272	ASSY T/W;BODY LOWER	
111	67843-600-110	HAND-GRIP ASSY;BODY-LOWER	
112	66052-602-910	COVER-JACK;ABS 94HB(HF380 HF0660I)	
113	66604-634-410	HOLDER-REC/STOP;ABS 94HB	
114	63334-104-020	MIC ASSY;ECM-M06M	
115	66614-623-910	BRACKET-LENS;SPG T0.8	
116	66614-635-610	BRACKET-LENS LOCK;SPG T0.8	
120	69063-213-245	ASSY LITHIUM BATTERY	
121	69063-213-160	ASSY START/STOP BOARD	
122	69063-213-154	ASSY MIC BOARD	
123	69063-213-185	ASSY PROCESS BOARD	
124	69063-213-148	ASSY VIDEO BOARD	
125	69063-213-158	ASSY DC-DC CONV. BOARD	
126	69063-213-150	ASSY VTR FUNCTION BOARD	
127	69063-213-146	ASSY MAIN BOARD	
128	69063-213-170	ASSY MATRIX BOARD	
129	69063-213-169	ASSY DRIVE BOARD	
130	69063-213-184	ASSY S/W BOARD	
131	69063-213-183	ASSY CAMERA FUNCTION BOARD	
132	67622-602-510	AF-FILTER;ACRYL(A-73)	
133	64543-624-010	S.C-DRIVER(UPPER);SPTE T0.25	
134	64543-623-510	S.C-DRIVER(LOWER);SPTE T0.25	
135	62073-0002-00	S.C-DIGITAL(UPPER);SPTE T0.25	
136	64543-623-710	S.C-DIGITAL(LOWER);SPTE T0.25	
137	69063-213-182	ASSY DIGITAL BOARD	
138	69063-213-152	ASSY DECK BOARD	
139	66603-616-410	HOLDER-CCD;LUPOY HB BLK(GP5000A)	
140	66834-607-810	SPACER-CCD;SILICON BLK	
141	62428-038-090	LPF-OPTICAL;SV-63B	
146	*EE-2-EXP	ASSY EVF;S8C-2(VC-E805/EXP)	
147	66021-600-210	FRAME-DECK;ABS 94HB(HF380 ABS740)	
148	CE-28P	ASSY CAMERA;S8C-2 CAMERA	
149	66612-607-610	BRACKET-FRAME;SPG T0.8	
150	62109-100-140	ZOOM LENS;H8D	
151	66612-607-710	BRACKET-CAMERA;SPG T0.8	
152	66463-605-410	SUPPORT-GUIDE;POM	
153	66021-601-210	MOUNT-CAMERA;ABS 94HB(AF303 HFH700)	
155	66052-602-810	CAP-HOOD ASSY;P.E+STRAP	
156	66053-605-710	HOOD;ABS HB BLK	
200	DE-2P	8M/M FULL DECK ASSY	
901	67094-120-230	SCREW-BH;M2X3 FE FZB	
902	67094-120-240	SCREW-BH;M2X4 FE FZB	
905	67128-522-240	SCREW-TAP TITE BH;2X4 FE FZB	
906	67128-522-280	SCREW-TAP TITE BH;2X8 FE FZB	
909	67064-600-210	SCREW-BH;M2X3.5 FE FZY	
910	67094-120-270	SCREW-BH;M2X7 FE FZB	
912	67128-521-206	SCREW-TAP TITE BH;3B+2X6 FE FZB	
913	67018-120-047	SCREW FH;3+M2X5 FE FZB	
914	67094-120-250	SCREW-BH;M2X5 FE FZB	
IC001	62119-701-020	IC-IMAGE SENSOR;ICX027BK-6	

8-2. Mechanism Assembly (1)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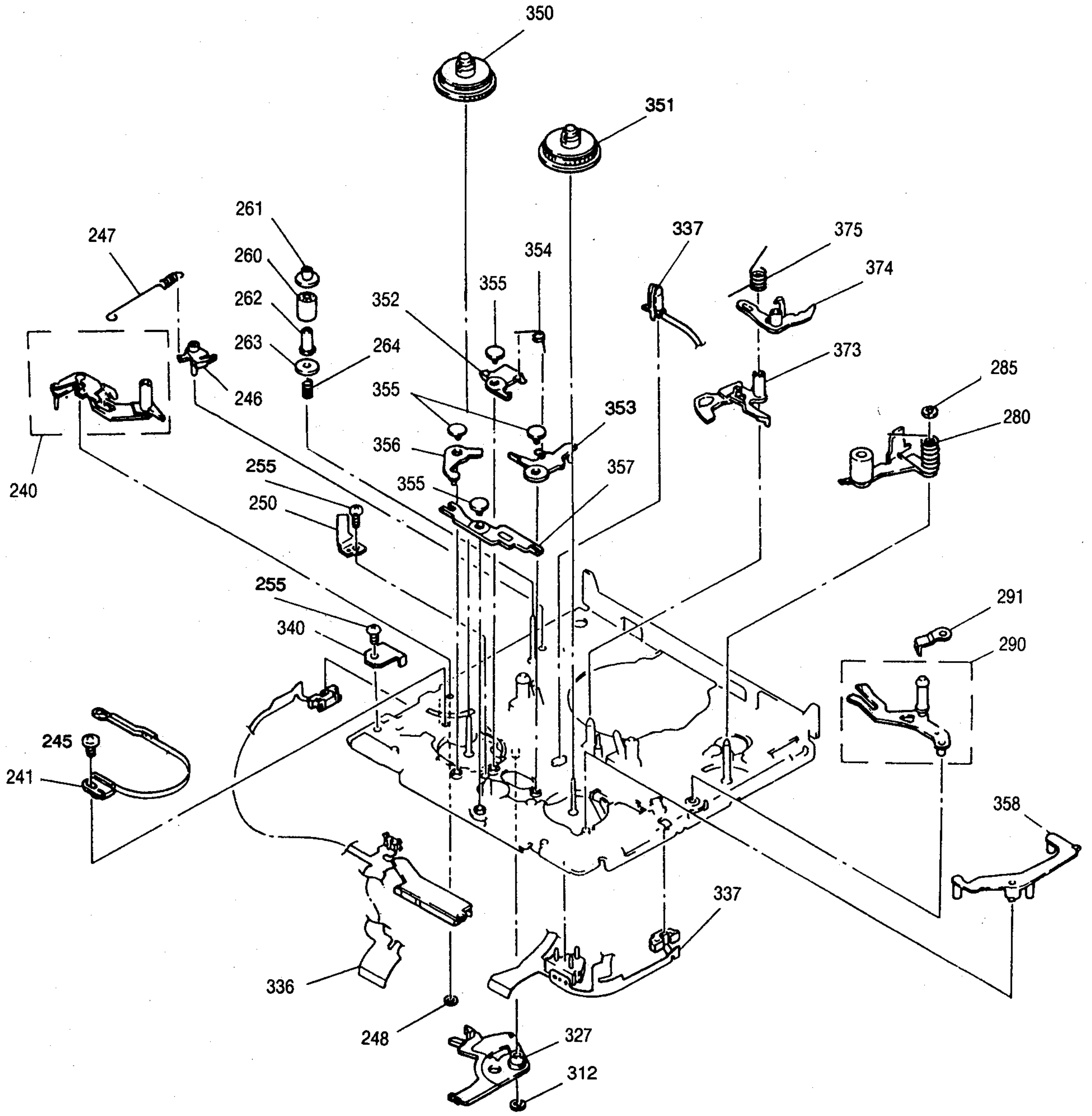
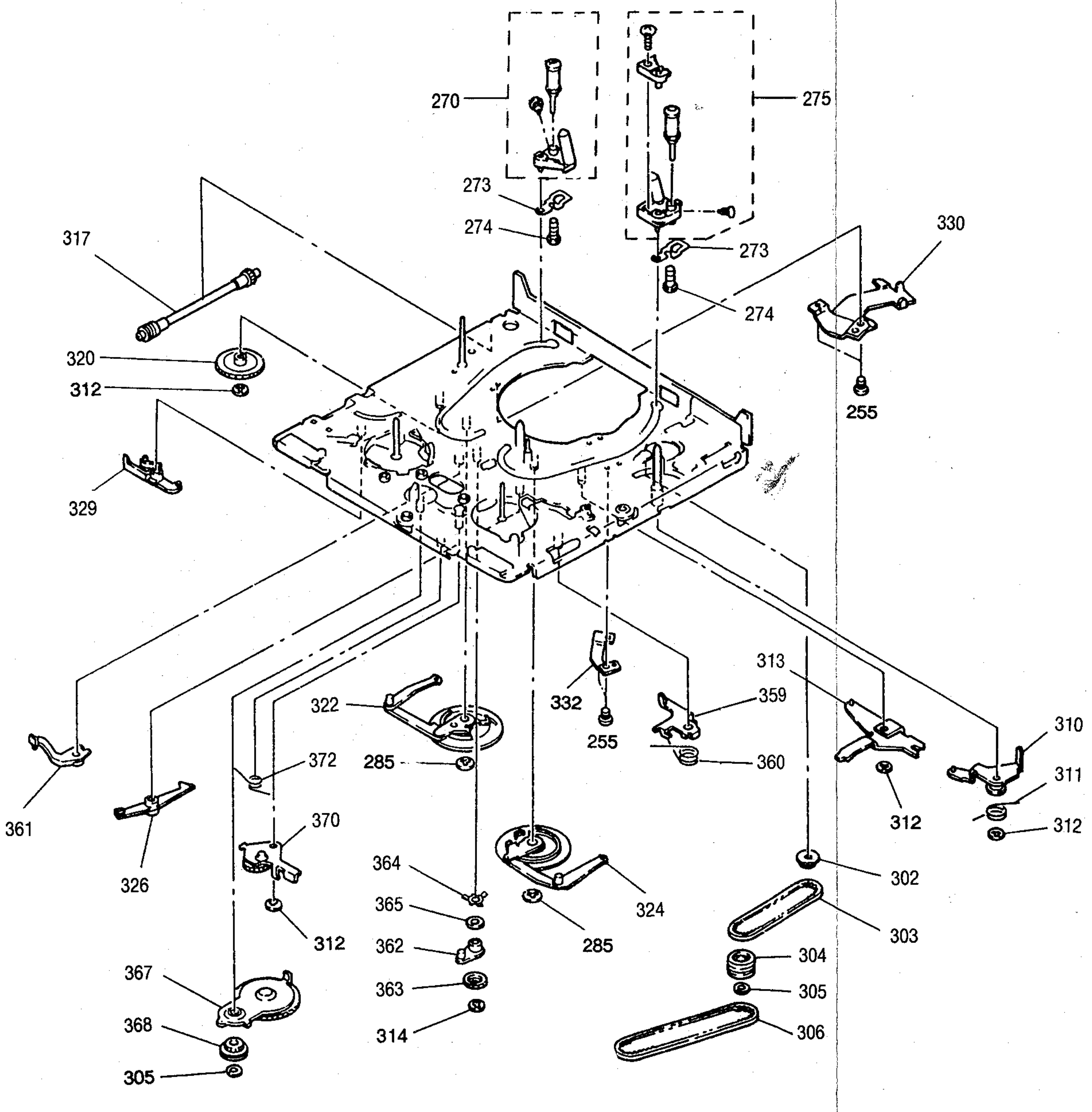
LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION	REMARK
138	69063-213-152	ASSY DECK BOARD;VC-E32 PAL	
201	69103-601-033	DRUM ASSY;DE-2PD-SS	
202	66163-600-910	DRUM BASE ASSY;ADC12+C3604BD	
203	67094-604-410	SCREW-BH;1+M2X5 FE FZY,WL	
221	67094-604-310	SCREW-BH;3+M2X3 FE FZW	
230	66614-634-010	EARTH BRUSH ASS'Y;SECC+PBSP	
300	64769-052-163	CAPSTAN MOTOR ASSY;DE-2	
315	64763-600-410	LOADING MOTOR ASSY;DE-2	
334	66214-0009-00	DEW SENSOR ASSY;D87-2+A5052+HARNESS	
376	66613-614-210	GUARD-GUIDE;A5052 T1.0	
400	66032-603-010	HOUSING ASSY;DE-2HO	
401	65203-606-510	DAMPER-HOUSING;FRT-SS-40	
902	67094-120-240	SCREW-BH;M2X4 FE FZB	

8-3. Mechanism Assembly (2)



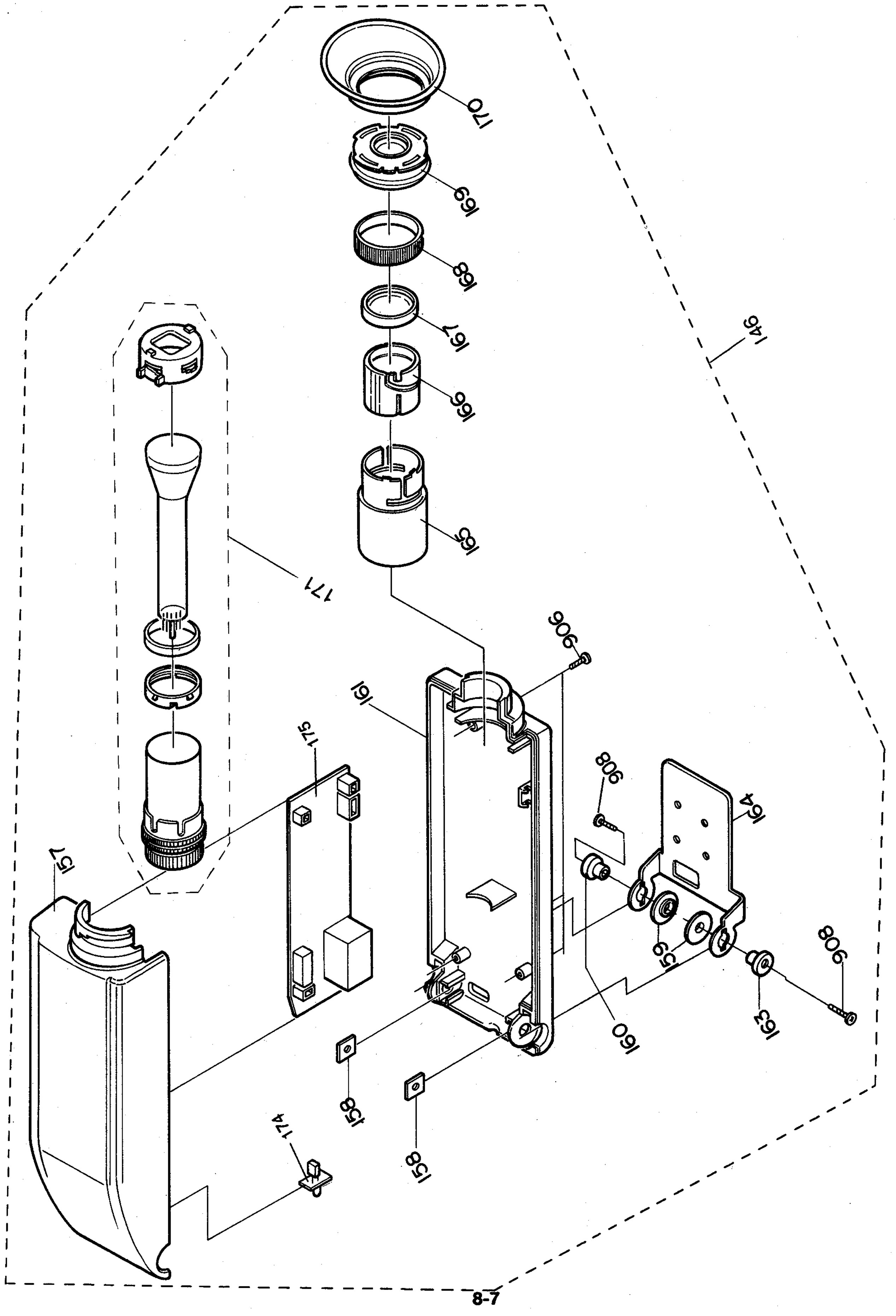
LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION	REMARK
240	65253-612-510	ARM TENSION ASSY;POM+SUS+C3604BD	
241	66604-638-610	HOLDER BAND ASSY;POM+LUMIRROR	
245	67094-604-010	SCREW-TENSION ARM;S45C-HC	
246	65253-609-510	ADJUST-TENSION SPRING;DURACON M90-02(NAT)	
247	66674-644-910	SPRING-TENSION;SUS304-WPB	
248	67334-602-410	WASHER-SLIT;PI 0.75X2.5X0.2T P.S	
250	66614-626-310	PLATE-TENSION BAND;SUS304-CSP T0.3	
255	67094-604-210	SCREW-BH;1+M1.4X1.8 FE FZB	
260	65224-608-110	ROLLER-IMPEDANCE;DURACON M270-44(NAT)	
261	66054-610-210	CAP-IMPEDANCE;DURACON M90-02(NAT)	
262	65114-613-810	SLEEVE-IMPEDANCE;C3604BD	
263	65164-603-510	FLANGE-IMPEDANCE;SUS303	
264	66674-645-010	SPRING-IMPEDANCE;SUS303-WPB	
280	65253-613-410	PINCH ASSY;DE-2	
285	67334-602-110	WASHER-SLIT;PI 1.7X4.0X0.4T P.S	
290	65253-613-610	TAPE GUIDE ASSY;SUS+SPRING	
291	66614-626-510	PLATE-T.G;SUS304-CSP T0.3	
312	67334-602-212	WASHER-SLIT;PI 1.2X3.0X0.3T P.S	
327	65253-613-510	MODE LEVER ASS'Y;POM+SECC+SUS	
336	63005-601-410	FPC S ASSY;DE-2	
337	63005-601-310	FPC T ASSY;DE-2	
340	66614-626-410	PLATE-CASS S/W;SUS304-CSP T0.3	
350	64234-602-810	REEL DISK S ASSY;POM+SUS+C3604BD+ETC	
351	65234-602-910	REEL DISK T ASSY;POM+SUS+C3604BD+ETC	
352	65253-609-910	BRAKE-S;DURACON M90-02(BLK)	
353	65253-610-210	BRAKE-T;DURACON M90-02(BLK)	
354	66674-644-110	SPRING-BRAKE;SUS304-WPB	
355	66054-610-220	CAP-BRAKE;DURACON M90-02(BLK)	
356	65253-609-810	BRAKE-LOADING;DURACON M90-02(BLK)	
357	65253-610-010	LEVER-LB;DURACON M90-02(BLK)	
358	65253-609-610	LEVER-BRAKE;DURANEX 3300	
373	65252-600-610	STOPPER-IDLER;DURACON M90-02(BLK)	
374	65252-600-510	ARM-STOPPER IDLER;DURACON M90-02(BLK)	
375	66674-643-910	SRPING-STOPPER IDLER;SUS304-WPB	

8-4. Mechanism Assembly (3)



LOCA NO	PART-NUMBER	DESCRIPTION;SPECIFICATION	REMARK
255	67094-604-210	SCREW-BH;1+M1.4X1.8 FE FZB	
270	65223-604-410	FULL P/B S ASSY;DE-2	
273	66673-627-710	PLATE-POLE BASE;PBSP T0.1	
274	67094-603-910	SCREW-PLATE P.B;S45C-HC	
275	65223-604-310	FULL P/B T ASSY;DE-2	
285	67334-602-110	WASHER-SLIT;PI 1.7X4.0X0.4T P.S	
302	65204-613-810	CAPSTAN GEAR ASSY;NYLON12+OILLESS METAL	
303	65274-600-210	BELT-REEL;CR-WRT	
304	65214-603-010	RELAY PULLEY ASSY;POM+OILLESS METAL	
305	67334-603-310	WASHER-SLIT;PI0.85X2.5X0.2T P.S	
306	65273-600-410	BELT-TIMING IDLER;POLY URETHAN(BLK)	
310	65254-630-610	PINCH LEVER ASS'Y;SECC+SUS+C3604BD	
311	66674-643-610	SPRING-PINCH LEVER;SUS304-WPB	
312	67334-602-212	WASHER-SLIT;PI 1.2X3.0X0.3T P.S	
313	65254-630-510	LOADING LEVER ASS'Y;SECC+SUS	
317	65204-616-510	WORM-ASSY;DE-2	
320	65203-607-210	GEAR-DRIVE CAM;DURACON M90-02(NAT)	
322	65203-606-610	CAM S ASSY;POM+SUS+C3604BD	
324	65203-606-710	CAM T ASSY;POM+SUS+C3604BD	
326	65254-627-510	LEVER-CAM BRAKE;DURACON M90-02(NAT)	
329	65253-610-610	LEVER-EJECT;DURACON M90-02(NAT)	
330	66653-602-710	SUPPORT S ASS'Y;SECC+SUS	
332	66654-616-210	SUPPORT-T;SECC T0.8	
359	65254-632-610	SOFT BRAKE ASSY;PBT+FELT	
360	66674-643-810	SPRING-SOFT BRAKE;SUS304-WPB	
361	65252-600-310	BRAKE-UL;DURACON M90-02(BLK)	
362	65254-627-410	ARM-UL.B;DURACON M90-02(BLK)	
363	65204-614-410	GEAR-UL.B;DURACON M90-02(BLK)	
364	66674-626-010	PLATE-SPRING BRAKE;PBSP T0.1	
365	67304-602-710	WASHER-PLAIN;PI1.6X3.2X0.13T P.S	
367	65154-600-310	IDLER ASSY;SECC+PA+C3604BD+ETC	
368	65204-613-910	GEAR DRIVE IDLER ASSY;POM+OILLESS METAL	
370	65253-613-710	LB GEAR ASSY;SECC+NYLON+SUS	
372	66674-644-010	SPRING-LB;SUS304-WPB	

8-5. Electronic Viewfinder (E.V.F)



LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION	REMARK
146	*EE-2-EXP	ASSY EVF;S8C-2(VC-E805P/EXP)	
157	66031-601-610	CASE-TOP;ABS 94HB(HF380 HF0660I)	
158	66604-640-710	HOLDER-LOCK;SECC T=1.0	
159	67304-602-810	WASHER;POM(BLK)	
160	66644-601-410	LOCK-A(R);ABS 94HB	
161	66031-601-510	CASE-BOTTOM;ABS 94HB(HF380 HF0660I)	
163	66644-601-510	LOCK-B(L);ABS 94HB	
164	66614-642-410	ASSY-BRKT EVF;EGCE T1.0	
165	66602-602-110	BODY-EVF LENS;ABS 94HB(HF380 ABS740)	
166	66603-613-910	HOLDER-EVF LENS;ABS 94HB(HF380 ABS740)	
167	66463-605-910	LENS EVF;PMMA CLR	
168	67623-631-610	RING-EVF LENS;ABS 94HB(HF380 ABS740)	
169	66603-613-810	HOLDER-EYE CUP;ABS 94HB(HF380 ABS740)	
170	67873-601-110	EYE CUP;SILICON BLK	
171	66604-640-110	HOLDER-CRT;ABS 94HB	
174	69063-213-267	ASSY EVF LED BOARD;VC-E805P/N	
175	69061-701-118	ASSY EVF BOARD;VC-E32	
906	67128-522-280	SCREW-TAP TITE BH;2X8 FE FZB	
908	67094-120-290	SCREW-BH;M2X9 FE FZB	

9. BLOCK DIAGRAMS

Page

9-1. Total Wiring Diagram ---------------- 9-2

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9-5. Luminance/Chrominance ------------ 9-6

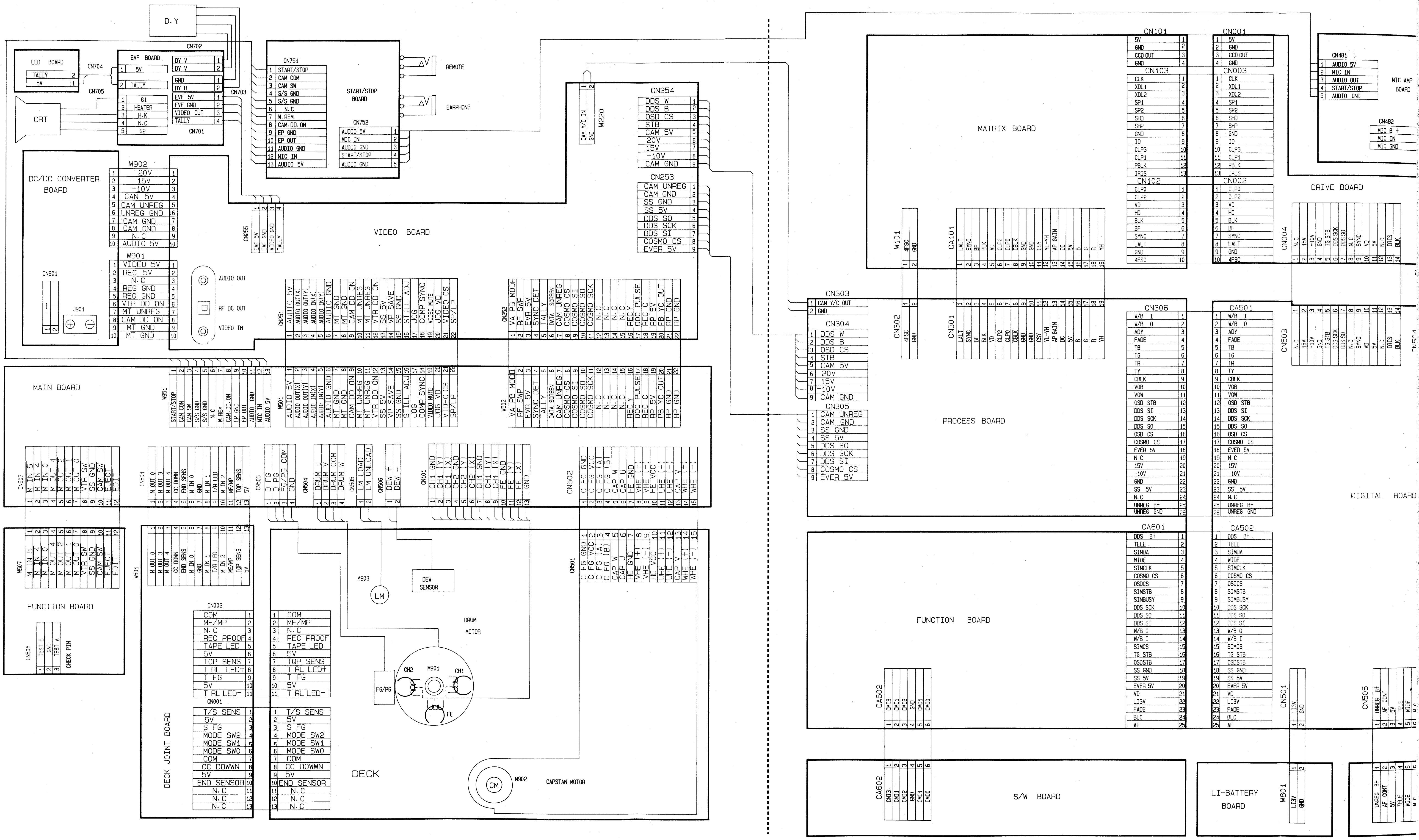
9-6. Audio -------------------------- 9-7

9-7. Pre-Amp ------------------------ 9-7

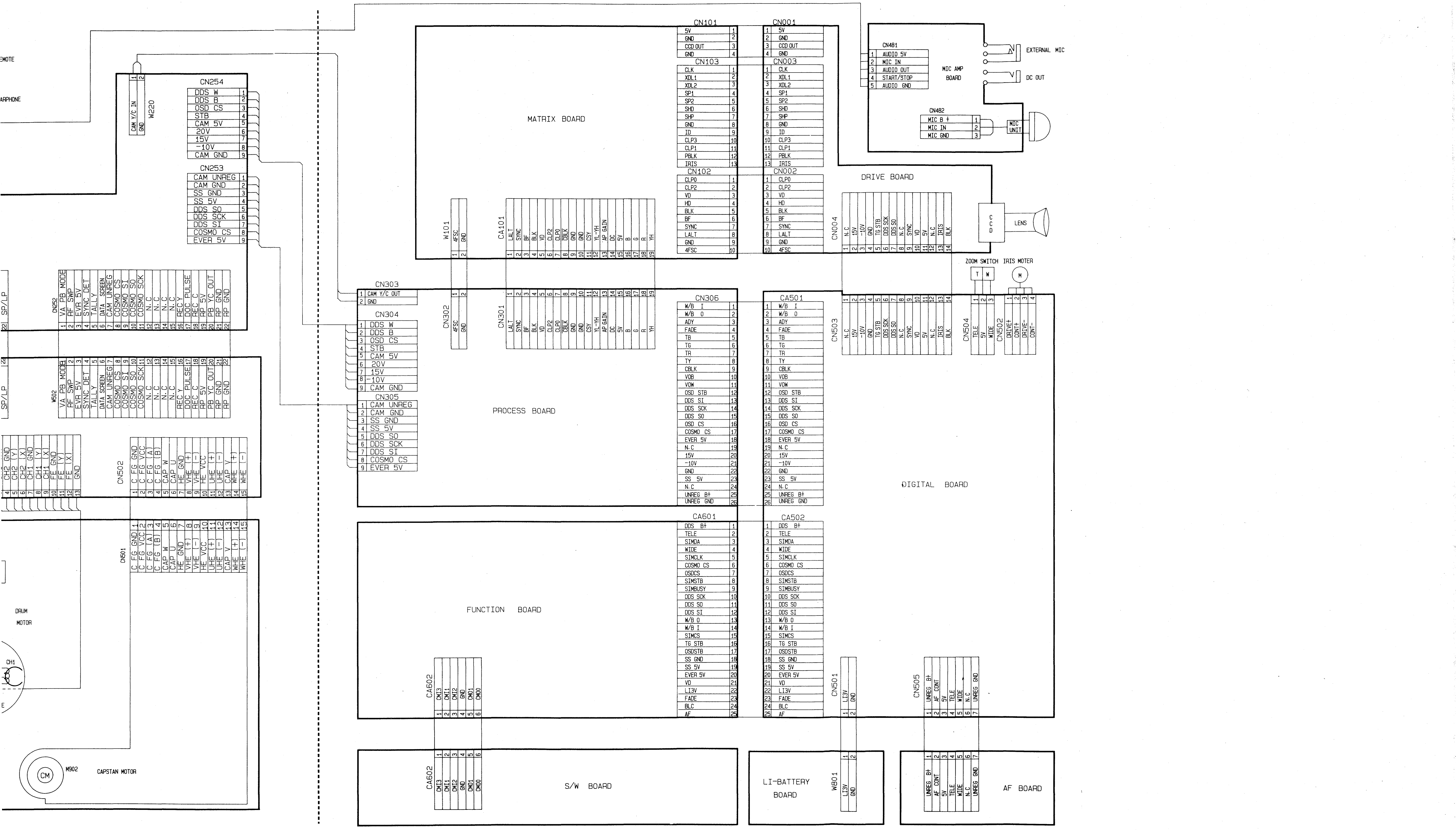
9-8. CAMERA (1) -------------------- 9-8

9-9. CAMERA (2) -------------------- 9-9

9-1. Total Wiring Diagram

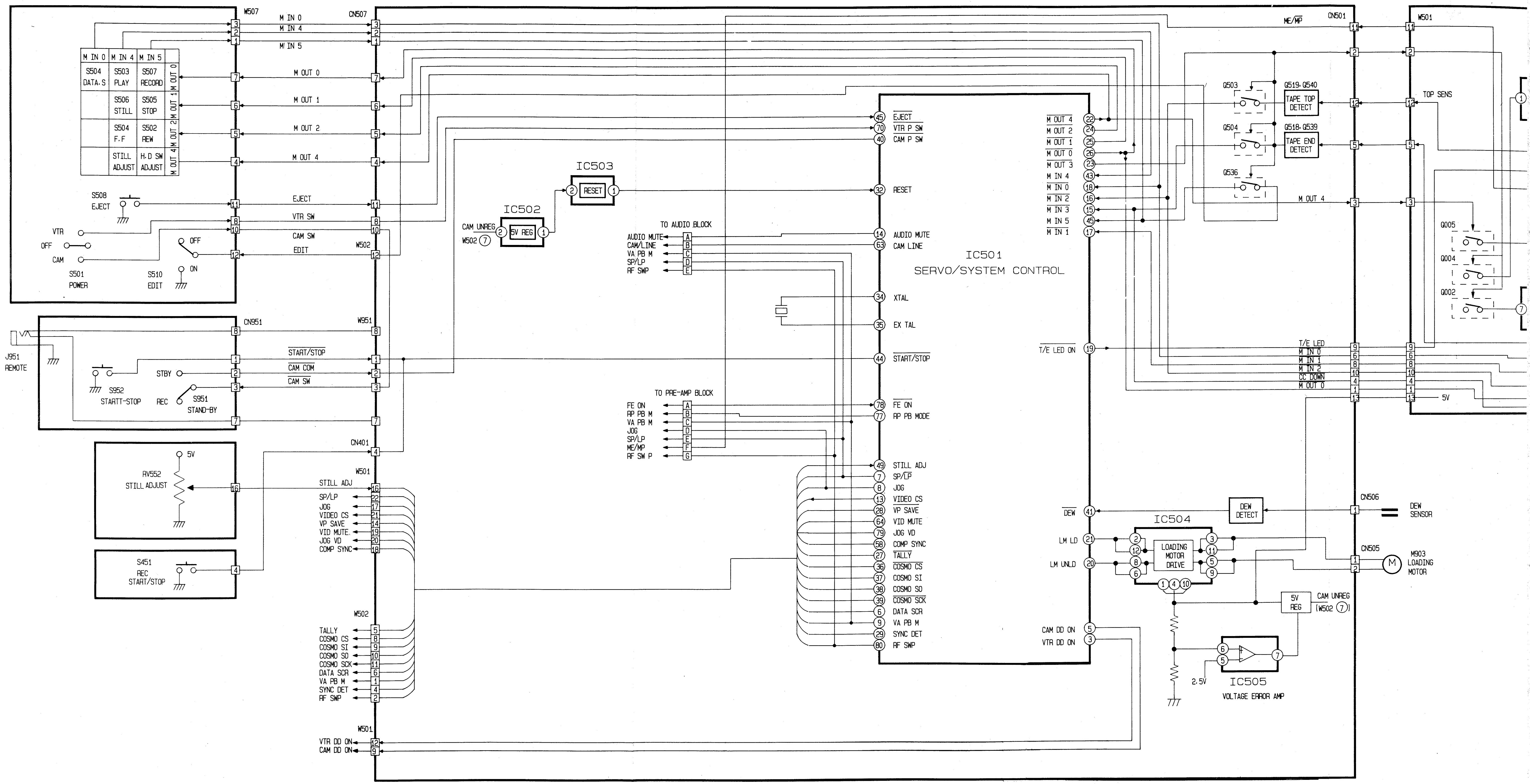


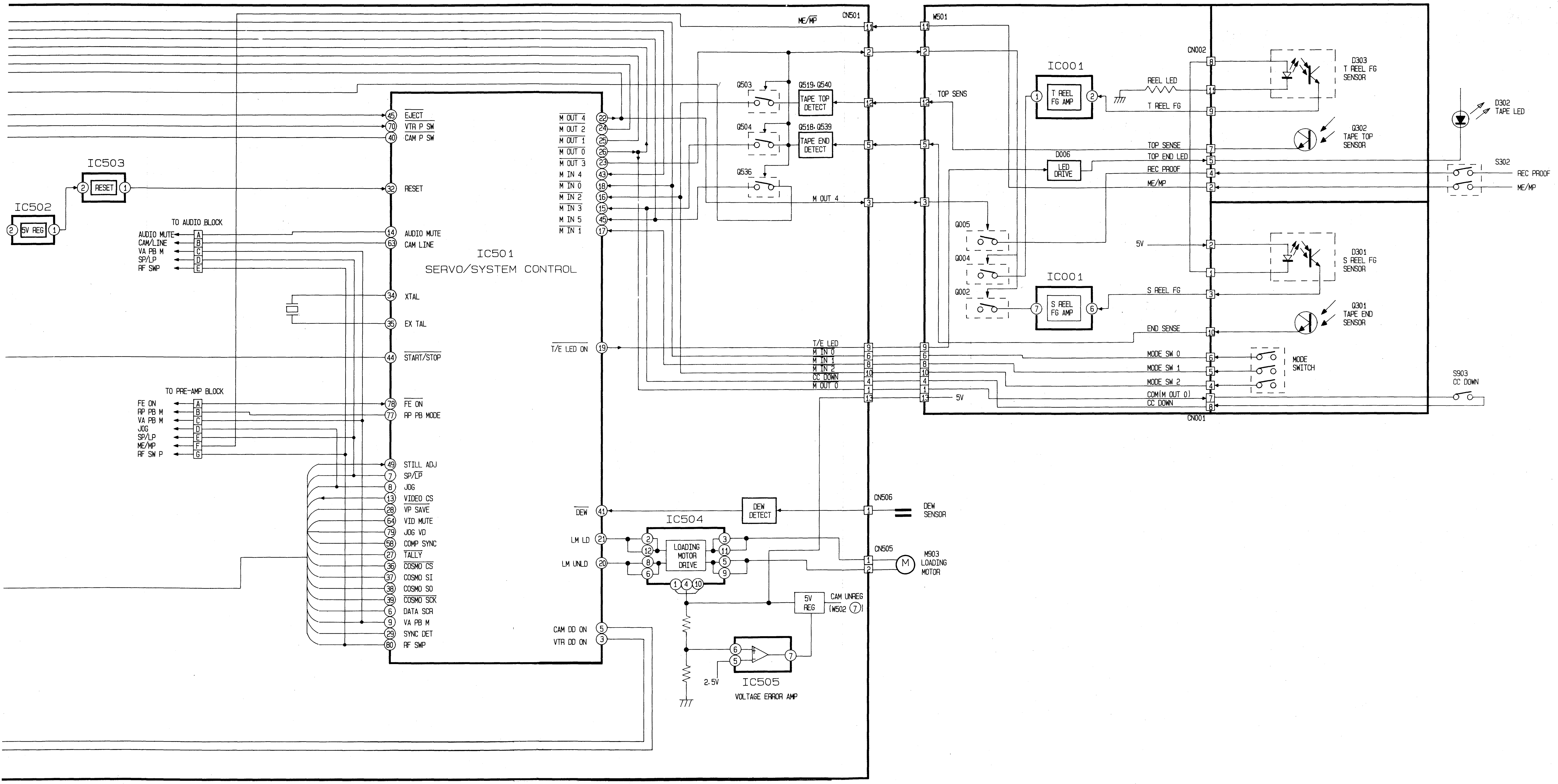
D.Y
LED BOARD
TALLY
5V
CN704
CN705
EVF BOARD
CN702
CN703
CN701
DY V
GND
DY H
EVF 5V
EVF GND
VIDEO OUT
TALLY
G1
HEATER
H.K
N.C
G2
CRT
CN751
START/STOP
CAM COM
CAM SW
S/S GND
N.C
W.REM
CAM.DD.ON
EP GND
EP OUT
AUDIO GND
MIC IN
AUDIO 5V
START/STOP BOARD
CN752
REMOTE
EARPHONE
CN254
DDS W
DDS B
OSD CS
STB
CAM 5V
20V
15V
-10V
CAM GND
CN253
CAM UNREG
SS GND
SS 5V
DDS SO
DDS SCK
DDS SI
COSMO CS
EVER 5V
W220
CAM Y/C IN
DC/DC CONVERTER BOARD
W902
CAN 5V
UNREG GND
CAM DD ON
W901
VIDEO 5V
REG 5V
REG GND
VTR DD ON
MT UNREG
MT GND
CN901
J901
AUDIO OUT
RF DC OUT
VIDEO IN
CN255
VIDEO BOARD
CN251
CN252
MAIN BOARD
W951
W501
W502
CN507
CN501
CN503
CN504
CN505
CN506
CN101
CN502
M IN 5
M IN 4
M IN 0
M OUT 4
M OUT 1
M OUT 0
VTR SW
SS GND
CAM SW
EJECT
EDIT
D FG
D FG/PG COM
DRUM U
DRUM V
DRUM COM
DRUM W
LM LOAD
LM UNLOAD
DEW +
DEW -
CH1 GND
CH2 GND
FE GND
C FG GND
C FG VCC
CAP W
CAP U
HE GND
HE VCC
WHE (+)
WHE (-)
W507
FUNCTION BOARD
CN508
TEST B
TEST A
CHECK PIN
W501
DECK JOINT BOARD
CN002
COM
ME/MP
REC PROOF
TAPE LED
TOP SENS
T RL LED+
T FG
T RL LED-
CN001
T/S SENS
S FG
MODE SW2
MODE SW1
MODE SWO
CC DOWWN
END SENSOR
M903
LM
DEW SENSOR
DRUM MOTOR
M901
CH1
CH2
FG/PG
FE
DECK
CM
M902
CAPSTAN MOTOR
CN501
MATRIX BOARD
CN101
CN103
CN102
CN001
CN003
CN002
CCD OUT
CLK
XDL1
XDL2
SP1
SP2
SHD
SHP
ID
CLP3
CLP1
PBLK
IRIS
CLP0
CLP2
VD
HD
BLK
BF
SYNC
LALT
4FSC
CN481
AUDIO 5V
MIC IN
AUDIO OUT
START/STOP
AUDIO GND
MIC AMP BOARD
CN482
MIC B +
MIC GND
DRIVE BOARD
CN004
CN503
W101
CA101
CN302
CN301
CN303
CAM Y/C OUT
CN304
CN305
CN306
CA501
PROCESS BOARD
W/B I
W/B O
ADY
FADE
TB
TG
TR
TY
CBLK
VOB
VOW
OSD STB
EVER 5V
UNREG B+
UNREG GND
DIGITAL BOARD
CA601
CA502
DDS B+
TELE
SIMDA
WIDE
SIMCLK
OSDCS
SIMSTB
SIMBUSY
SIMCS
TG STB
OSDSTB
LI3V
BLC
AF
FUNCTION BOARD
CA602
CM13
CM11
CM12
CM01
CM00
CN501
CN505
S/W BOARD
LI-BATTERY BOARD
W801



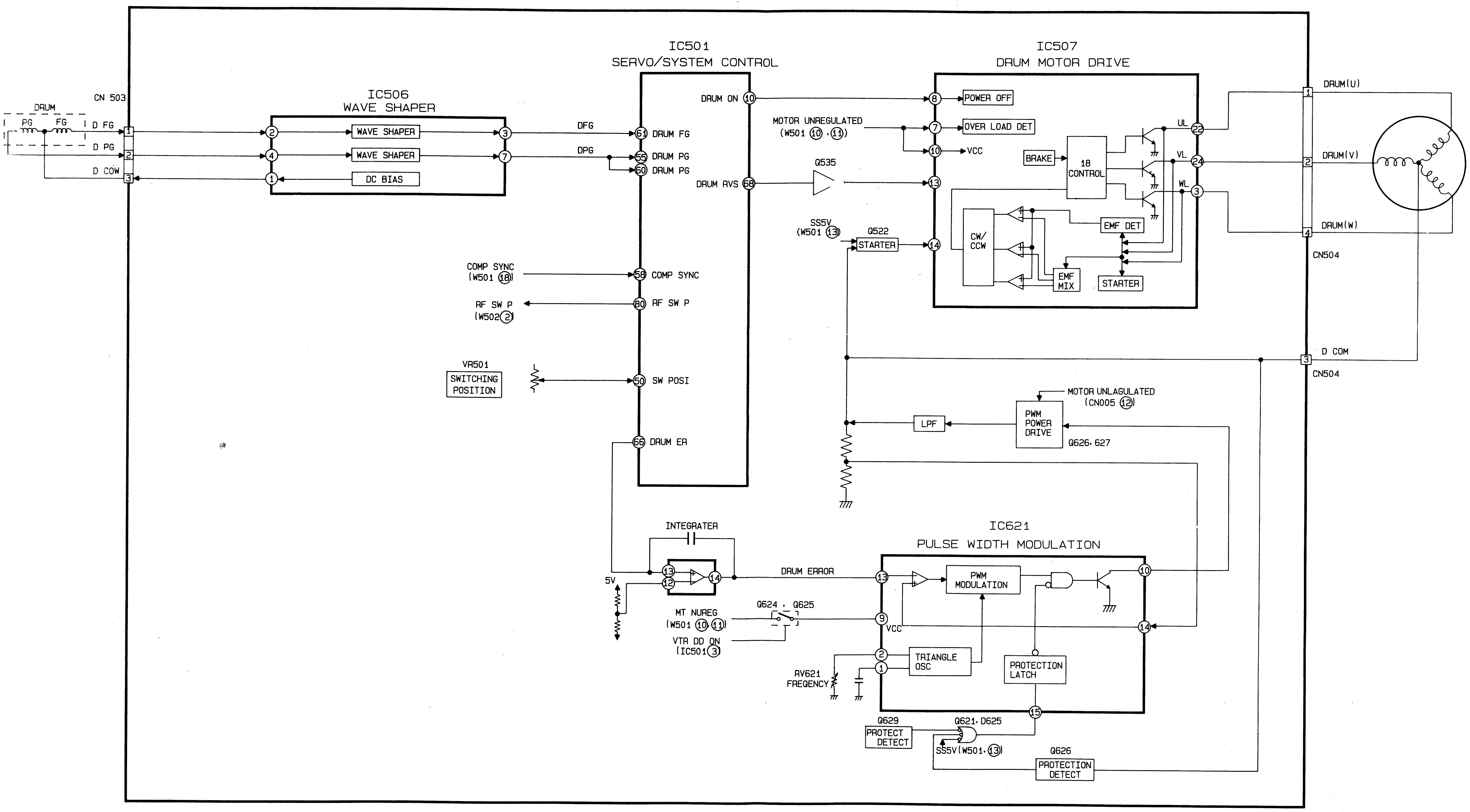
EMOTE
ARPHONE
W220
CAM Y/C IN
GND
CN254
DDS W
DDS B
OSD CS
STB
CAM 5V
20V
15V
-10V
CAM GND
CN253
CAM UNREG
CAM GND
SS GND
SS 5V
DDS SO
DDS SCK
DDS SI
COSMO CS
EVER 5V
CN252
VA PB MODE
RF SWP
EVR 5V
SYNC DET
TALLY
DATA SCREEN
CAM UNREG
COSMO CS
COSMO SI
COSMO SO
COSMO SCK
N.C
REC Y
DOC PULSE
REC C
RP 5V
PB YC OUT
RP GND
SP/LP
W502
CN502
C FG GND
C FG VCC
C FG (A)
C FG (B)
CAP W
CAP U
HE GND
VHE (+)
VHE (-)
HE VCC
UHE (+)
UHE (-)
CAP V
WHE (+)
WHE (-)
CN501
CH2 GND
CH2 (Y)
CH2 (X)
CH1 GND
CH1 (Y)
CH1 (X)
FE GND
FE (Y)
FE (X)
GND
DRUM MOTOR
CH1
M902
CM
CAPSTAN MOTOR
MATRIX BOARD
CN101
5V
GND
CCD OUT
CN103
CLK
XDL1
XDL2
SP1
SP2
SHD
SHP
ID
CLP3
CLP1
PBLK
IRIS
CN102
CLP0
CLP2
VD
HD
BLK
BF
SYNC
LALT
4FSC
CN001
CN003
CN002
W101
CA101
YL-YH
AP GAIN
DC
R
G
B
YH
CSY
CBLK
CN303
CN304
CN305
CN302
CN301
CN306
W/B I
W/B O
ADY
FADE
TB
TG
TR
TY
CBLK
VOB
VOW
OSD STB
DDS SCK
OSD CS
EVER 5V
UNREG B+
UNREG GND
PROCESS BOARD
CA501
CA601
DDS B+
TELE
SIMDA
WIDE
SIMCLK
OSDCS
SIMSTB
SIMBUSY
SIMCS
TG STB
OSDSTB
LI3V
BLC
AF
CA502
FUNCTION BOARD
CA602
CMI3
CMI1
CMI2
CMO1
CMO0
DIGITAL BOARD
CN501
CN505
AF CONT
DRIVE BOARD
CN004
CN503
CCD
LENS
ZOOM SWITCH
IRIS MOTER
T
W
M
CN504
CN502
DRIVE+
CONT+
DRIVE-
CONT-
CN481
AUDIO 5V
MIC IN
AUDIO OUT
START/STOP
AUDIO GND
MIC AMP BOARD
EXTERNAL MIC
DC OUT
CN482
MIC B +
MIC GND
MIC UNIT
S/W BOARD
LI-BATTERY BOARD
W801
AF BOARD

9-2. System Control

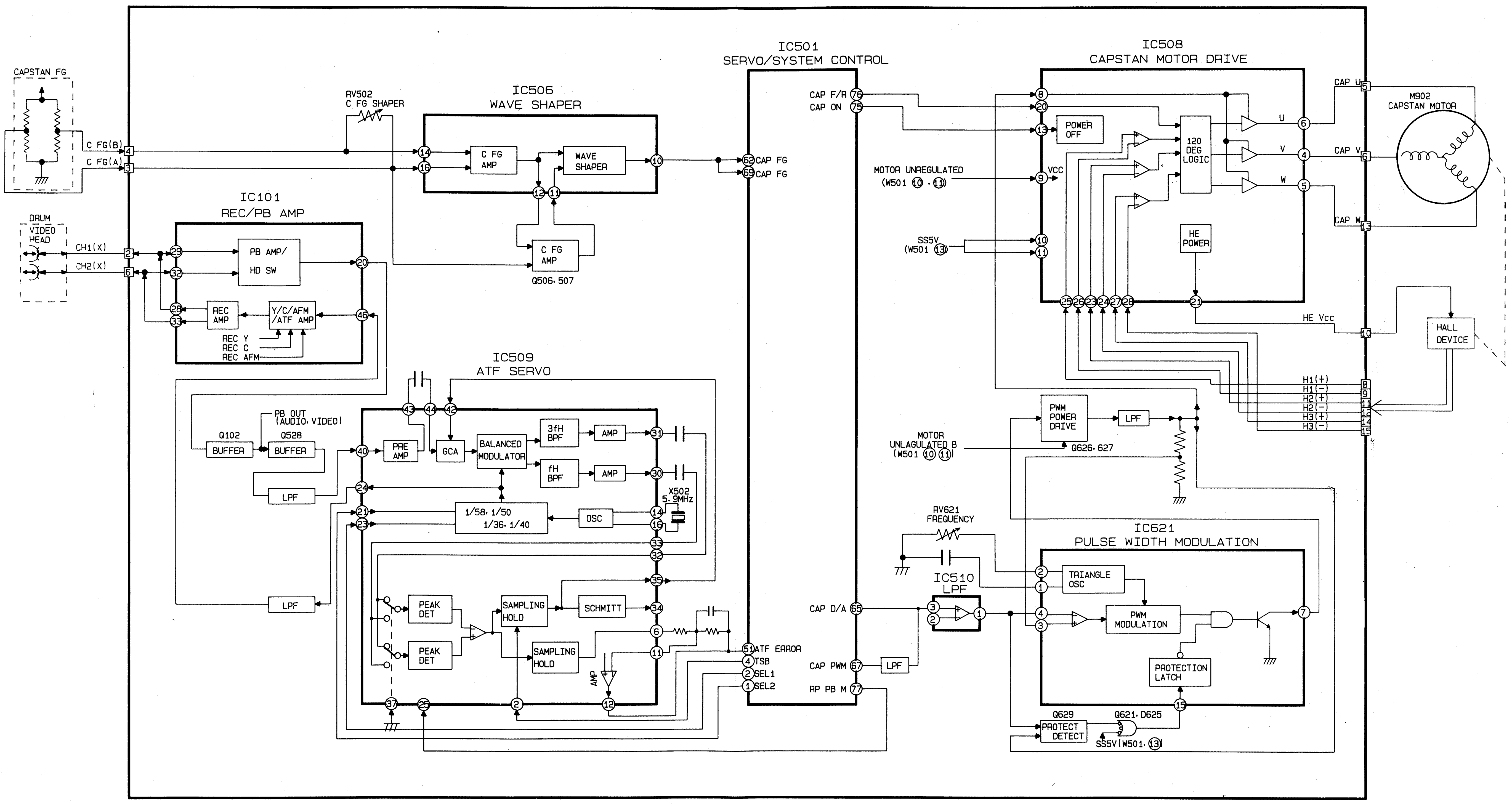

W507
CN507
M IN 0
M IN 4
M IN 5
M OUT 0
M OUT 1
M OUT 2
M OUT 4
S504 DATA.S
S503 PLAY
S507 RECORD
S506 STILL
S505 STOP
S504 F.F
S502 REW
STILL ADJUST
H.D SW ADJUST
S508 EJECT
EJECT
VTR SW
CAM SW
EDIT
VTR
OFF
CAM
S501 POWER
S510 EDIT
ON
W502
J951 REMOTE
CN951
W951
START/STOP
CAM COM
S952 STARTT-STOP
STBY
REC
S951 STAND-BY
CN401
W501
RV552 STILL ADJUST
5V
S451 REC START/STOP
STILL ADJ
SP/LP
JOG
VIDEO CS
VP SAVE
VID MUTE
JOG VD
COMP SYNC
TALLY
COSMO CS
COSMO SI
COSMO SO
COSMO SCK
DATA SCR
VA PB M
SYNC DET
RF SWP
VTR DD ON
CAM DD ON
IC503
RESET
IC502
5V REG
CAM UNREG
W502 ⑦
TO AUDIO BLOCK
AUDIO MUTE
CAM/LINE
VA PB M
SP/LP
RF SWP
TO PRE-AMP BLOCK
FE ON
RP PB M
VA PB M
JOG
SP/LP
ME/MP
RF SW P
IC501
SERVO/SYSTEM CONTROL
EJECT
VTR P SW
CAM P SW
RESET
AUDIO MUTE
CAM LINE
XTAL
EX TAL
START/STOP
FE ON
RP PB MODE
STILL ADJ
SP/LP
JOG
VIDEO CS
VP SAVE
VID MUTE
JOG VD
COMP SYNC
TALLY
COSMO CS
COSMO SI
COSMO SO
COSMO SCK
DATA SCR
VA PB M
SYNC DET
RF SWP
M OUT 4
M OUT 2
M OUT 1
M OUT 0
M OUT 3
M IN 4
M IN 0
M IN 2
M IN 3
M IN 5
M IN 1
T/E LED ON
DEW
LM LD
LM UNLD
CAM DD ON
VTR DD ON
IC504
LOADING MOTOR DRIVE
IC505
VOLTAGE ERROR AMP
2.5V
5V REG
CAM UNREG (W502 ⑦)
DEW DETECT
CN506
DEW SENSOR
CN505
M903 LOADING MOTOR
ME/MP
CN501
W501
Q503
Q519, Q540
TAPE TOP DETECT
Q504
Q518, Q539
TAPE END DETECT
Q536
TOP SENS
M OUT 4
Q005
Q004
Q002
T/E LED
M IN 0
M IN 1
M IN 2
CC DOWN
M OUT 0
5V


IC502
5V REG
IC503
RESET
TO AUDIO BLOCK
AUDIO MUTE
CAM/LINE
VA PB M
SP/LP
RF SWP
TO PRE-AMP BLOCK
FE ON
RP PB M
VA PB M
JOG
SP/LP
ME/MP
RF SW P
IC501
SERVO/SYSTEM CONTROL
EJECT
VTR P SW
CAM P SW
RESET
AUDIO MUTE
CAM LINE
XTAL
EX TAL
START/STOP
FE ON
RP PB MODE
STILL ADJ
SP/LP
JOG
VIDEO CS
VP SAVE
VID MUTE
JOG VD
COMP SYNC
TALLY
COSMO CS
COSMO SI
COSMO SO
COSMO SCK
DATA SCR
VA PB M
SYNC DET
RF SWP
M OUT 4
M OUT 2
M OUT 1
M OUT 0
M OUT 3
M IN 4
M IN 0
M IN 2
M IN 3
M IN 5
M IN 1
T/E LED ON
DEW
LM LD
LM UNLD
CAM DD ON
VTR DD ON
Q503
Q504
Q536
Q519, Q540
TAPE TOP DETECT
Q518, Q539
TAPE END DETECT
ME/MP
CN501
M OUT 4
T/E LED
M IN 0
M IN 1
M IN 2
CC DOWN
M OUT 0
DEW DETECT
CN506
DEW SENSOR
IC504
LOADING MOTOR DRIVE
CN505
M903
LOADING MOTOR
5V REG
CAM UNREG
(W502 ⑦)
IC505
VOLTAGE ERROR AMP
2.5V
W501
TOP SENS
5V
IC001
T REEL FG AMP
REEL LED
T REEL FG
TOP SENSE
TOP END LED
REC PROOF
ME/MP
D006
LED DRIVE
Q005
Q004
Q002
IC001
S REEL FG AMP
S REEL FG
END SENSE
MODE SW 0
MODE SW 1
MODE SW 2
COM(M OUT 0)
CC DOWN
CN002
CN001
D303
T REEL FG SENSOR
D302
TAPE LED
Q302
TAPE TOP SENSOR
S302
REC PROOF
ME/MP
D301
S REEL FG SENSOR
Q301
TAPE END SENSOR
MODE SWITCH
S903
CC DOWN

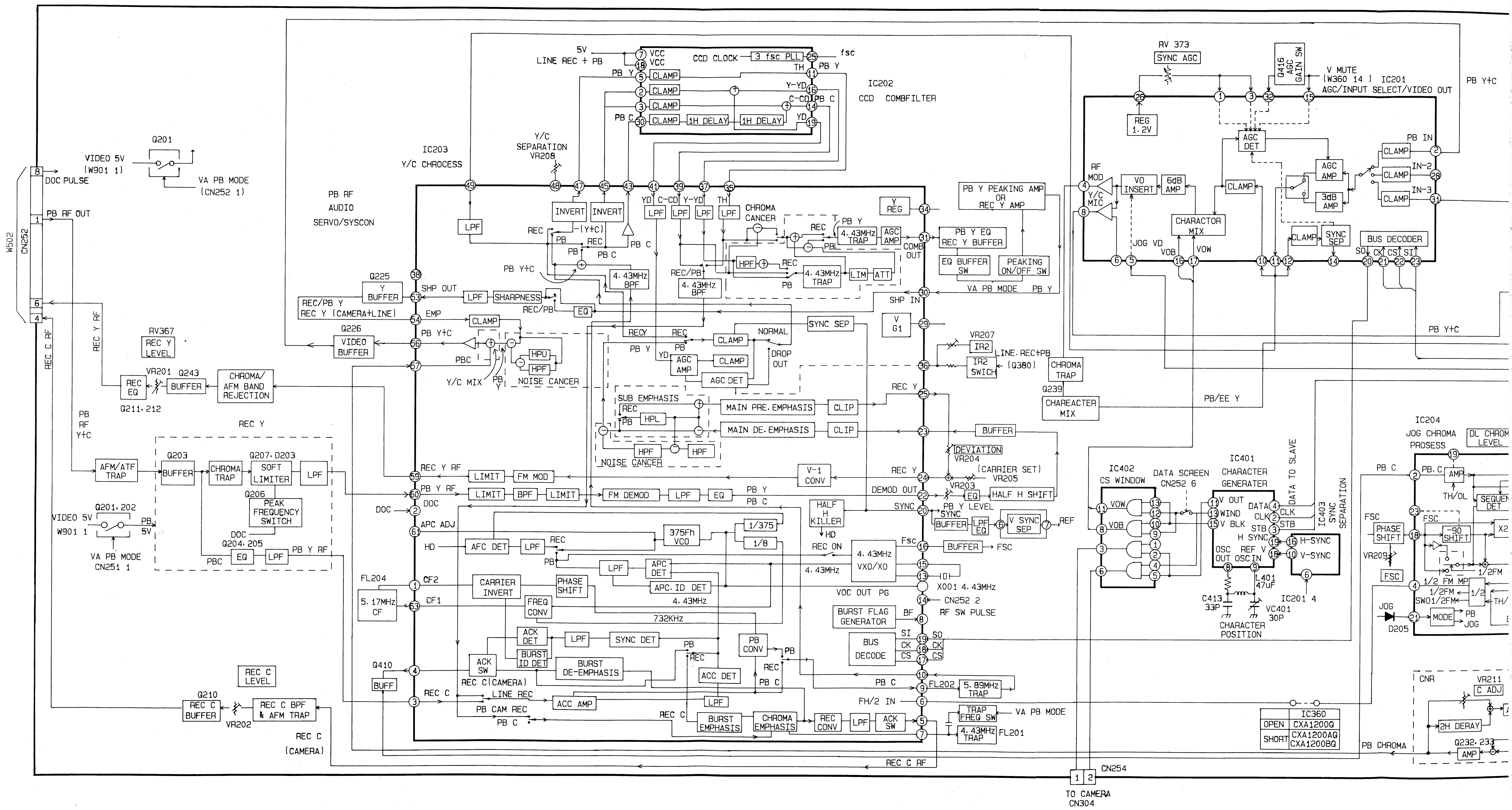
9-3. Servo Drum Control

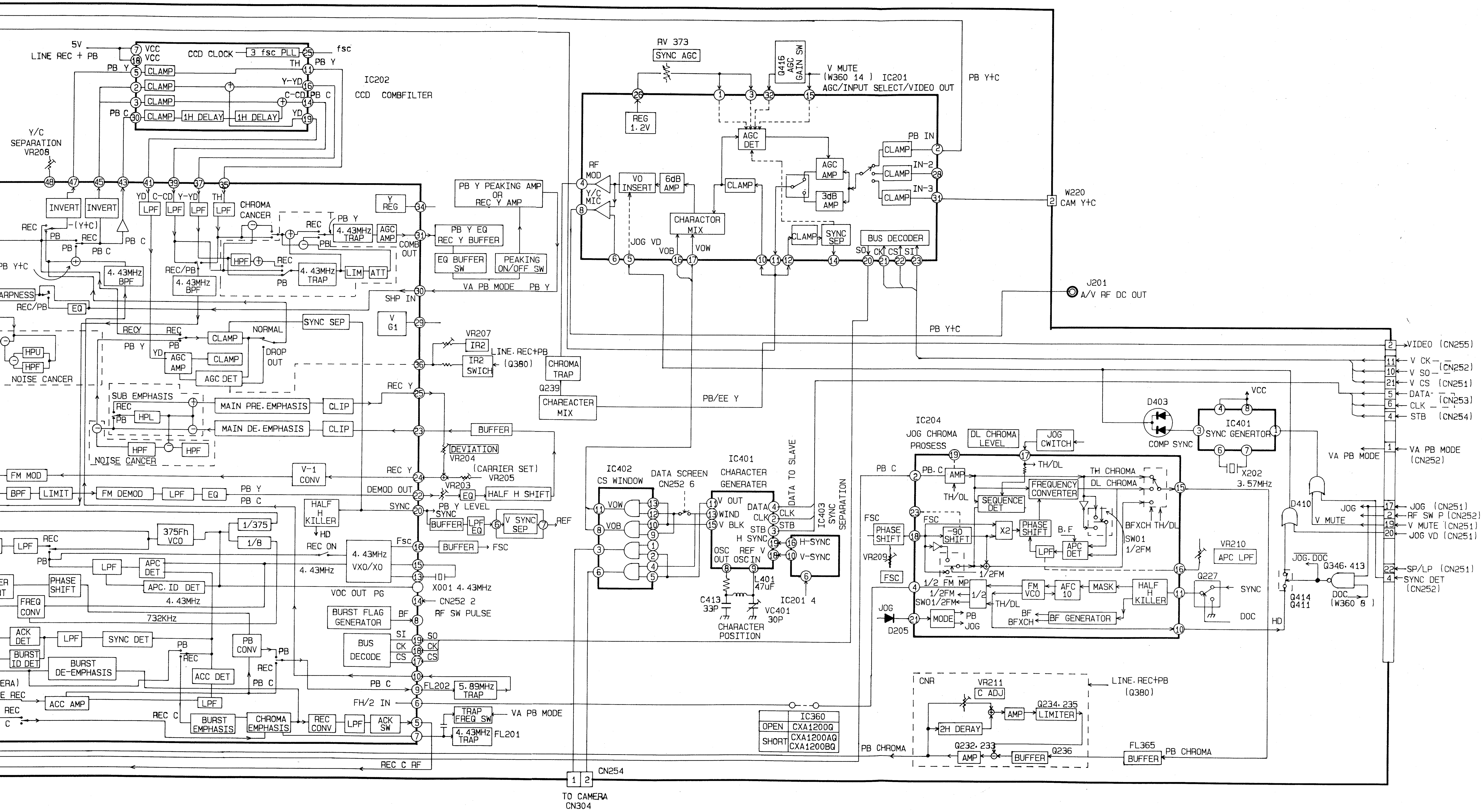

IC501
SERVO/SYSTEM CONTROL
IC507
DRUM MOTOR DRIVE
IC506
WAVE SHAPER
CN 503
DRUM
PG
FG
D FG
D PG
D COW
WAVE SHAPER
WAVE SHAPER
DC BIAS
DFG
DPG
DRUM ON
DRUM FG
DRUM PG
DRUM PG
DRUM RVS
COMP SYNC
(W501 ⑱)
COMP SYNC
RF SW P
(W502②)
RF SW P
VR501
SWITCHING POSITION
SW POSI
DRUM ER
MOTOR UNREGULATED
(W501 ⑩ · ⑪)
Q535
SS5V
(W501 ⑬)
Q522
STARTER
POWER OFF
OVER LOAD DET
VCC
BRAKE
18 CONTROL
UL
VL
WL
CW/CCW
EMF DET
EMF MIX
STARTER
DRUM(U)
DRUM(V)
DRUM(W)
M901
DRUM
MOTER
CN504
D COM
CN504
MOTOR UNLAGULATED
(CN005 ⑫)
PWM POWER DRIVE
Q626, 627
LPF
INTEGRATER
5V
DRUM ERROR
MT NUREG
(W501 ⑩ ⑪)
VTR DD ON
(IC501③)
Q624 , Q625
IC621
PULSE WIDTH MODULATION
PWM MODULATION
VCC
TRIANGLE OSC
PROTECTION LATCH
RV621
FREQENCY
Q629
PROTECT DETECT
Q621, D625
SS5V(W501, ⑬)
Q626
PROTECTION DETECT

9-4. Servo Capstan Control


CAPSTAN FG
C FG(B)
C FG(A)
DRUM VIDEO HEAD
CH1(X)
CH2(X)
RV502
C FG SHAPER
IC506
WAVE SHAPER
C FG AMP
WAVE SHAPER
C FG AMP
Q506, 507
IC101
REC/PB AMP
PB AMP/ HD SW
REC AMP
Y/C/AFM /ATF AMP
REC Y
REC C
REC AFM
IC509
ATF SERVO
PB OUT (AUDIO, VIDEO)
Q102
BUFFER
Q528
BUFFER
LPF
PRE AMP
GCA
BALANCED MODULATOR
3fH BPF
fH BPF
AMP
AMP
X502
5.9MHz
1/58, 1/50
1/36, 1/40
OSC
PEAK DET
PEAK DET
SAMPLING HOLD
SAMPLING HOLD
SCHMITT
AMP
LPF
IC501
SERVO/SYSTEM CONTROL
CAP F/R
CAP ON
CAP FG
CAP FG
ATF ERROR
TSB
SEL1
SEL2
CAP D/A
CAP PWM
RP PB M
LPF
IC508
CAPSTAN MOTOR DRIVE
POWER OFF
120 DEG LOGIC
HE POWER
VCC
U
V
W
MOTOR UNREGULATED
(W501 ⑩, ⑪)
SS5V
(W501 ⑬)
CAP U
CAP V
CAP W
M902
CAPSTAN MOTOR
HE Vcc
HALL DEVICE
H1(+)
H1(-)
H2(+)
H2(-)
H3(+)
H3(-)
PWM POWER DRIVE
LPF
Q626, 627
MOTOR UNLAGULATED B
(W501 ⑩ ⑪)
RV621
FREQUENCY
IC510
LPF
IC621
PULSE WIDTH MODULATION
TRIANGLE OSC
PWM MODULATION
PROTECTION LATCH
Q629
PROTECT DETECT
Q621, D625
SS5V(W501, ⑬)

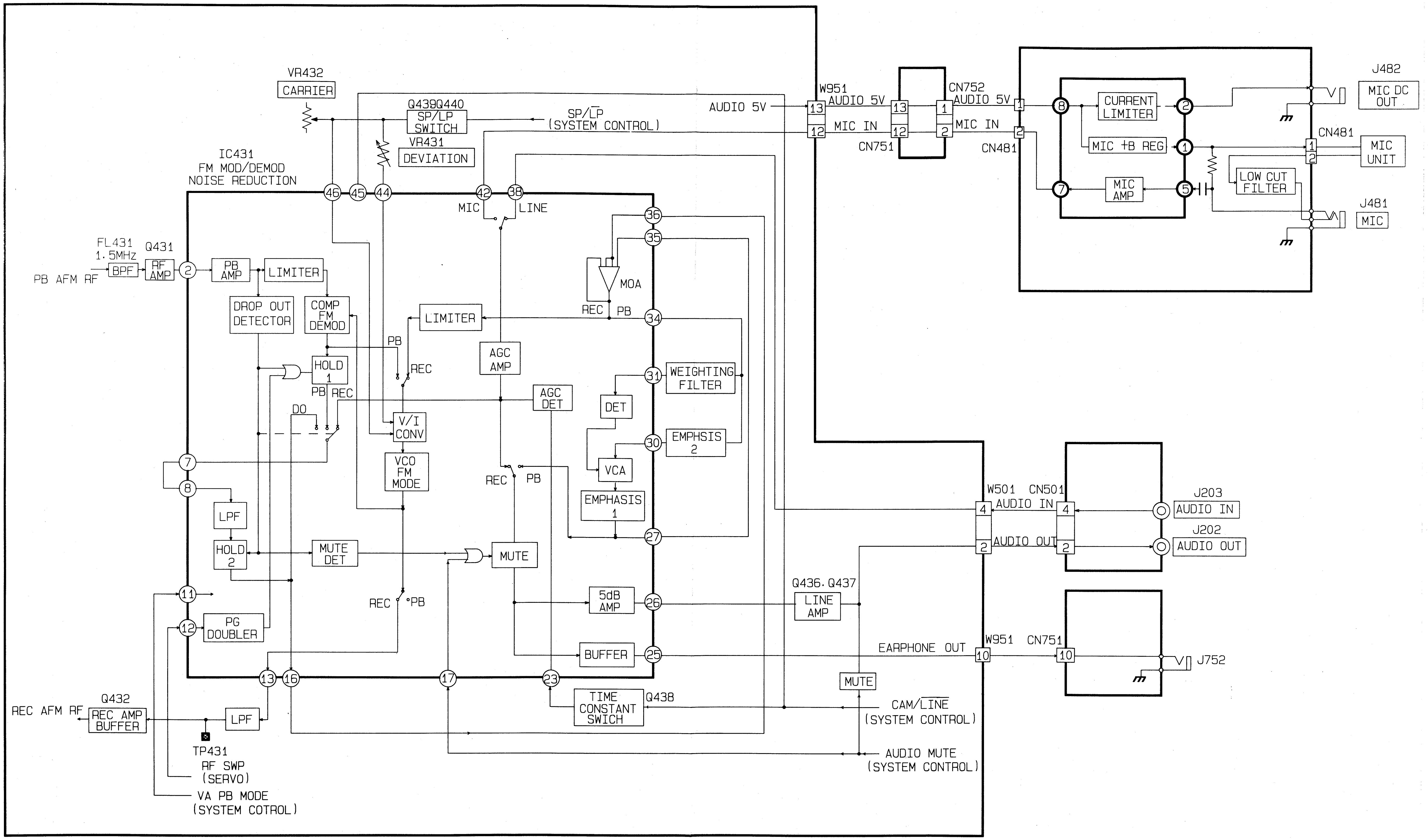
9-5. Luminance/Chrominance


W502
CN252
DOC PULSE
PB RF OUT
REC C RF
REC Y RF
Q201
VIDEO 5V
(W901 1)
VA PB MODE
(CN252 1)
PB RF
AUDIO
SERVO/SYSCON
IC203
Y/C CHROCESS
Y/C SEPARATION VR208
5V
LINE REC + PB
VCC
CCD CLOCK
3 fsc PLL
fsc
TH
PB Y
CLAMP
Y-YD
C-CD
PB C
1H DELAY
YD
IC202
CCD COMBFILTER
INVERT
LPF
REC
PB
(Y+C)
PB Y+C
4.43MHz BPF
REC/PB
CHROMA CANCER
4.43MHz TRAP
AGC AMP
HPF
LIM
ATT
COMB OUT
Y REG
PB Y EQ
REC Y BUFFER
EQ BUFFER SW
PEAKING ON/OFF SW
PB Y PEAKING AMP OR REC Y AMP
VA PB MODE
SHP IN
Q225
Y BUFFER
SHP OUT
SHARPNESS
REC/PB Y
REC Y (CAMERA+LINE)
EMP
EQ
Q226
VIDEO BUFFER
PB Y+C
PBC
Y/C MIX
HPU
NOISE CANCER
RV367
REC Y LEVEL
VR201
Q243
BUFFER
CHROMA/AFM BAND REJECTION
REC EQ
Q211, 212
PB RF Y+C
REC Y
AFM/ATF TRAP
Q203
Q207, D203
CHROMA TRAP
SOFT LIMITER
Q206
PEAK FREQUENCY SWITCH
DOC
Q204, 205
PB Y RF
Q201, 202
VIDEO 5V
W901 1
VA PB MODE
CN251 1
SYNC SEP
NORMAL
DROP OUT
AGC DET
V G1
VR207
IR2
LINE, REC+PB
IR2 SWICH
(Q380)
CHROMA TRAP
Q239
CHAREACTER MIX
SUB EMPHASIS
HPL
MAIN PRE. EMPHASIS
MAIN DE. EMPHASIS
CLIP
REC Y RF
LIMIT
FM MOD
BPF
FM DEMOD
V-1 CONV
DEMOD OUT
DEVIATION
VR204
(CARRIER SET)
VR205
VR203
HALF H SHIFT
HALF H KILLER
HD
SYNC
PB Y LEVEL
V SYNC SEP
REF
APC ADJ
AFC DET
375Fh VCO
1/375
1/8
REC ON
4.43MHz VXO/XO
Fsc
FSC
APC DET
APC. ID DET
X001 4.43MHz
FL204
CF2
CF1
5.17MHz CF
CARRIER INVERT
PHASE SHIFT
FREQ CONV
732KHz
VOC OUT PG
CN252 2
BURST FLAG GENERATOR
BF
RF SW PULSE
ACK DET
SYNC DET
BURST ID DET
BURST DE-EMPHASIS
PB CONV
BUS DECODE
SI SO CK CS
Q410
BUFF
ACK SW
REC C (CAMERA)
ACC DET
LINE REC
PB CAM REC
ACC AMP
BURST EMPHASIS
CHROMA EMPHASIS
REC CONV
FL202
5.89MHz TRAP
FH/2 IN
TRAP FREQ SW
4.43MHz TRAP
FL201
REC C RF
REC C LEVEL
Q210
REC C BUFFER
VR202
REC C BPF & AFM TRAP
REC C (CAMERA)
CN254
TO CAMERA CN304
RV 373
SYNC AGC
Q416 AGC GAIN SW
V MUTE (W360 14)
IC201 AGC/INPUT SELECT/VIDEO OUT
PB Y+C
REG 1.2V
AGC DET
PB IN
IN-2
IN-3
RF MOD
Y/C MIC
VO INSERT
6dB AMP
3dB AMP
CHARACTOR MIX
JOG VD
VOB
VOW
SYNC SEP
BUS DECODER
SO CK CS SI
PB/EE Y
IC402
CS WINDOW
DATA SCREEN CN252 6
IC401
CHARACTER GENERATER
DATA TO SLAVE
IC403 SYNC SEPARATION
V OUT
WIND
V BLK
DATA
CLK
STB
H SYNC
V-SYNC
OSC OUT
OSC IN
REF V
L401 47uF
C413 33P
VC401 30P
IC201 4
CHARACTER POSITION
IC360
OPEN CXA1200Q
SHORT CXA1200AQ CXA1200BQ
IC204
JOG CHROMA PROSESS
DL CHROM LEVEL
PB C
AMP
TH/OL
SEQUEN DET
FSC
PHASE SHIFT
-90 SHIFT
VR209
1/2 FM MP
1/2FM
SW01/2FM
JOG
D205
MODE
PB JOG
CNR
VR211
C ADJ
2H DERAY
Q232, 233
PB CHROMA

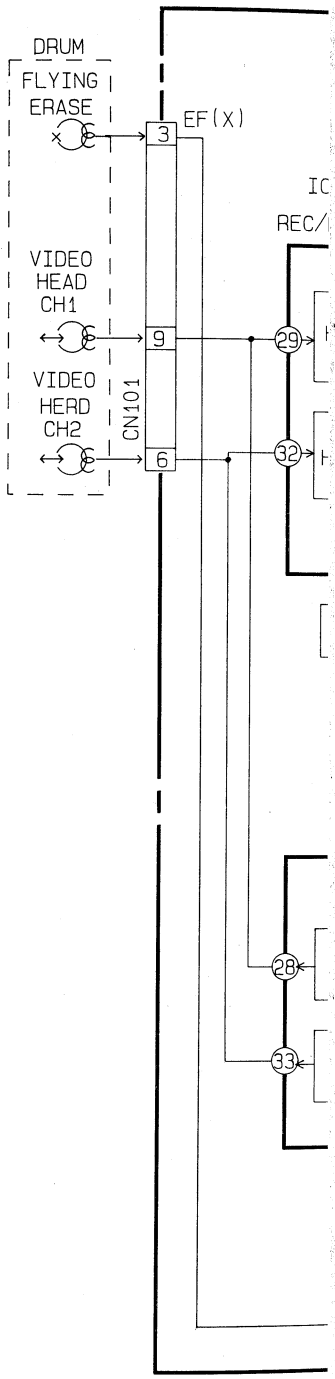

5V
LINE REC + PB
VCC
CCD CLOCK
3 fsc PLL
fsc
TH
PB Y
CLAMP
Y-YD
C-CD
PB C
1H DELAY
YD
IC202
CCD COMBFILTER
Y/C SEPARATION VR208
YD C-CD Y-YD TH
INVERT
LPF
CHROMA CANCER
Y REG
PB Y PEAKING AMP OR REC Y AMP
PB Y EQ REC Y BUFFER
4.43MHz TRAP
AGC AMP
COMB OUT
HPF
4.43MHz TRAP
LIM
ATT
EQ BUFFER SW
PEAKING ON/OFF SW
VA PB MODE
SHP IN
4.43MHz BPF
REC/PB
SHARPNESS
EQ
RECY
NORMAL
DROP OUT
SYNC SEP
V G1
VR207
IR2
IR2 SWICH
LINE.REC+PB (Q380)
HPU
HPF
NOISE CANCER
AGC AMP
AGC DET
CHROMA TRAP
Q239
CHAREACTER MIX
SUB EMPHASIS
HPL
MAIN PRE.EMPHASIS
MAIN DE.EMPHASIS
CLIP
BUFFER
DEVIATION VR204
(CARRIER SET) VR205
REC Y
PB/EE Y
FM MOD
V-1 CONV
BPF
LIMIT
FM DEMOD
EQ
DEMOD OUT
VR203
PB Y LEVEL
HALF H SHIFT
HALF H KILLER
HD
SYNC
BUFFER
LPF EQ
V SYNC SEP
REF
375Fh VCO
1/375
1/8
REC ON
4.43MHz VXO/XO
Fsc
FSC
4.43MHz
APC DET
PHASE SHIFT
APC.ID DET
VOC OUT PG
X001 4.43MHz
FREQ CONV
732KHz
CN252 2 RF SW PULSE
BURST FLAG GENERATOR
BF
ACK DET
SYNC DET
PB CONV
BUS DECODE
SI SO CK CS
BURST ID DET
BURST DE-EMPHASIS
ACC DET
ACC AMP
FL202
5.89MHz TRAP
FH/2 IN
REC C
BURST EMPHASIS
CHROMA EMPHASIS
REC CONV
ACK SW
TRAP FREQ SW
4.43MHz TRAP
FL201
REC C RF
CN254
TO CAMERA CN304
RV 373
SYNC AGC
Q416 AGC GAIN SW
V MUTE (W360 14)
IC201
AGC/INPUT SELECT/VIDEO OUT
PB Y+C
REG 1.2V
AGC DET
PB IN
IN-2
IN-3
RF MOD
Y/C MIX
VO INSERT
6dB AMP
CLAMP
AGC AMP
3dB AMP
CHARACTOR MIX
JOG VD
VOB
VOW
SYNC SEP
BUS DECODER
SO CK CS SI
W220 CAM Y+C
J201 A/V RF DC OUT
VIDEO (CN255)
V CK (CN252)
V SO
V CS (CN251)
DATA (CN253)
CLK
STB (CN254)
IC402 CS WINDOW
DATA SCREEN CN252 6
IC401 CHARACTER GENERATER
V OUT
WIND
V BLK
DATA
CLK
STB
H SYNC
OSC OUT
OSC IN
REF V
H-SYNC
V-SYNC
DATA TO SLAVE
IC403 SYNC SEPARATION
C413 33P
L401 47uF
VC401 30P
IC201 4
CHARACTER POSITION
IC204 JOG CHROMA PROSESS
DL CHROMA LEVEL
JOG CWITCH
TH/DL
PB C
AMP
TH/OL
SEQUENCE DET
FREQUENCY CONVERTER
TH CHROMA
DL CHROMA
FSC
PHASE SHIFT
-90 SHIFT
X2
B.F
APC DET
BFXCH TH/DL
SW01 1/2FM
VR209
VR210 APC LPF
1/2 FM MP
1/2FM
SW01/2FM
FM VCO
AFC 10
MASK
HALF H KILLER
Q227
SYNC
DOC
JOG
D205
MODE
BF GENERATOR
BFXCH
D403
COMP SYNC
VCC
IC401 SYNC GENERATOR
X202 3.57MHz
VA PB MODE (CN252)
D410
JOG (CN251)
RF SW P (CN252)
V MUTE (CN251)
JOG VD (CN251)
JOG.DOC
Q346.413
Q414 Q411
DOC (W360 8)
SP/LP (CN251)
SYNC DET (CN252)
HD
CNR
VR211 C ADJ
LINE.REC+PB (Q380)
2H DERAY
AMP
Q234.235 LIMITER
Q232.233
Q236
BUFFER
FL365
PB CHROMA

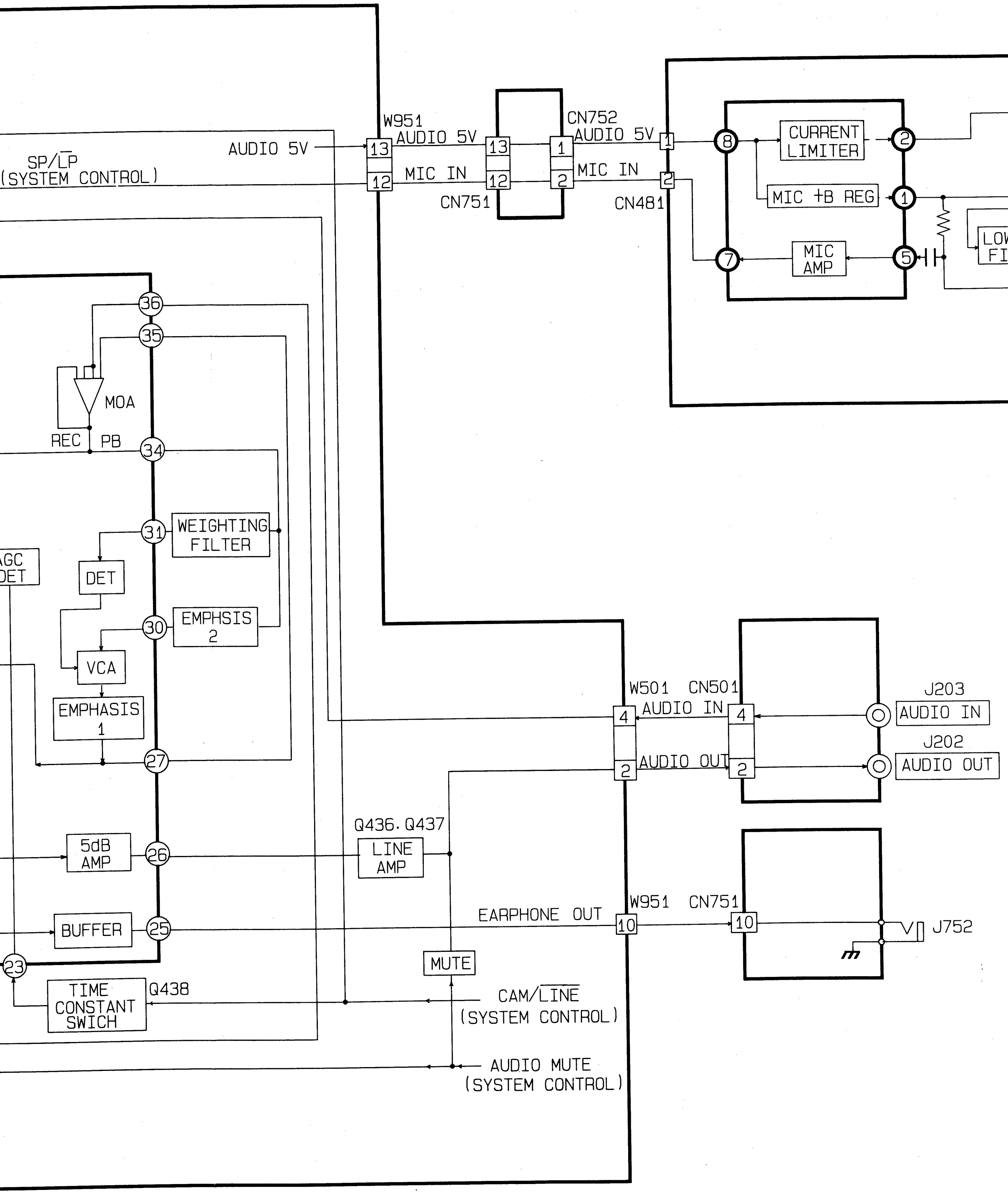
	IC360
OPEN	CXA1200Q
SHORT	CXA1200AQ CXA1200BQ

9-6. Audio

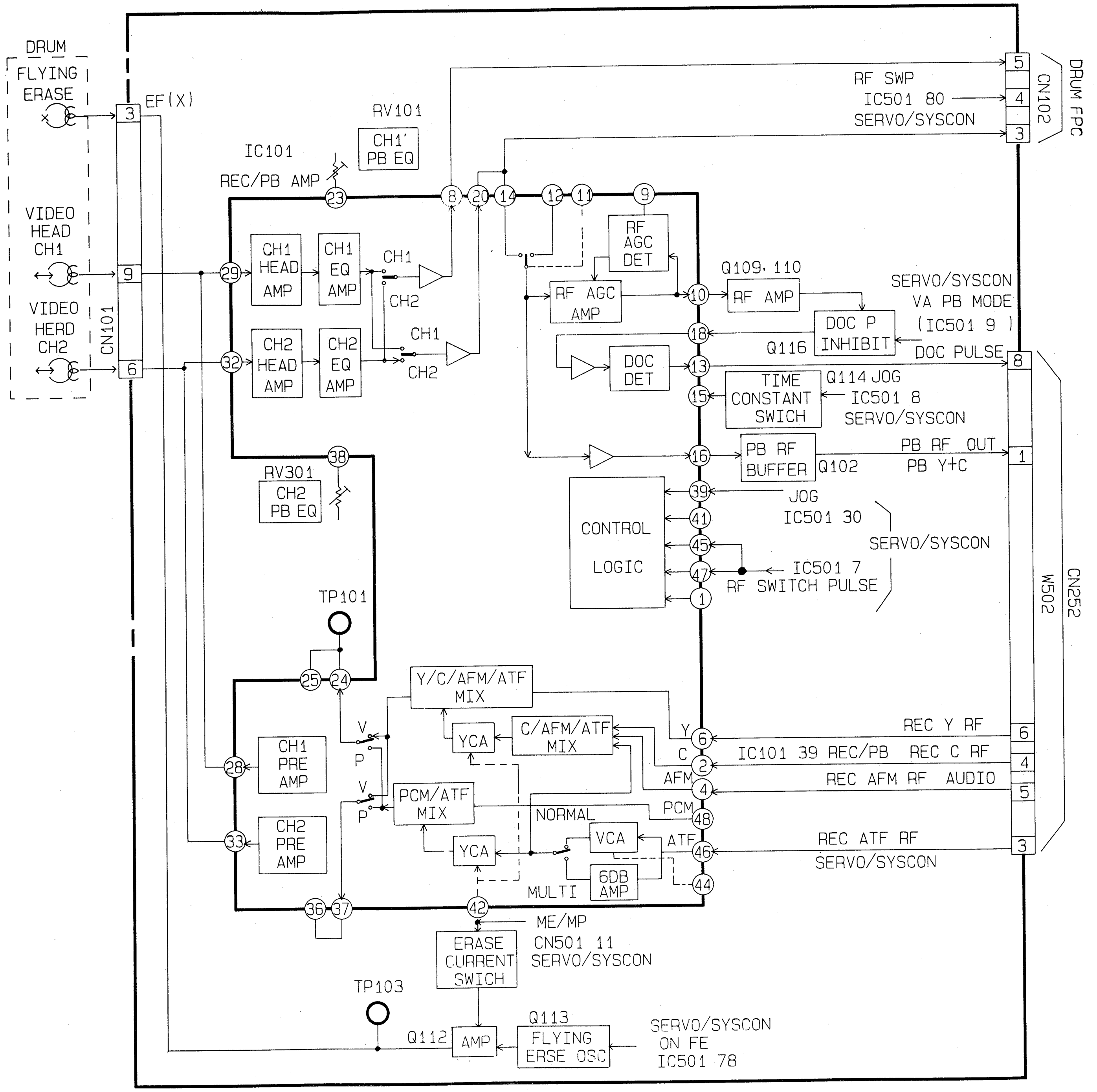

VR432
CARRIER
Q439Q440
SP/LP SWITCH
SP/LP (SYSTEM CONTROL)
VR431
DEVIATION
IC431
FM MOD/DEMOD
NOISE REDUCTION
46
45
44
42
38
MIC
LINE
FL431
1.5MHz
Q431
PB AFM RF
BPF
RF AMP
2
PB AMP
LIMITER
DROP OUT DETECTOR
COMP FM DEMOD
LIMITER
AGC AMP
AGC DET
MOA
REC
PB
36
35
34
31
30
27
26
25
WEIGHTING FILTER
EMPHSIS 2
DET
VCA
EMPHASIS 1
HOLD 1
PB
REC
DO
V/I CONV
VCO FM MODE
7
8
LPF
HOLD 2
MUTE DET
MUTE
5dB AMP
BUFFER
11
12
PG DOUBLER
13
16
17
23
TIME CONSTANT SWICH
Q438
Q432
REC AFM RF
REC AMP BUFFER
LPF
TP431
RF SWP (SERVO)
VA PB MODE (SYSTEM COTROL)
AUDIO 5V
W951
AUDIO 5V
MIC IN
13
12
CN751
CN752
AUDIO 5V
MIC IN
1
2
CN481
CURRENT LIMITER
MIC +B REG
MIC AMP
8
2
1
7
5
LOW CUT FILTER
J482
MIC DC OUT
CN481
MIC UNIT
J481
MIC
W501
CN501
AUDIO IN
AUDIO OUT
4
2
J203
AUDIO IN
J202
AUDIO OUT
Q436.Q437
LINE AMP
MUTE
EARPHONE OUT
W951
CN751
10
J752
CAM/LINE (SYSTEM CONTROL)
AUDIO MUTE (SYSTEM CONTROL)

9-7. Pre-Amp

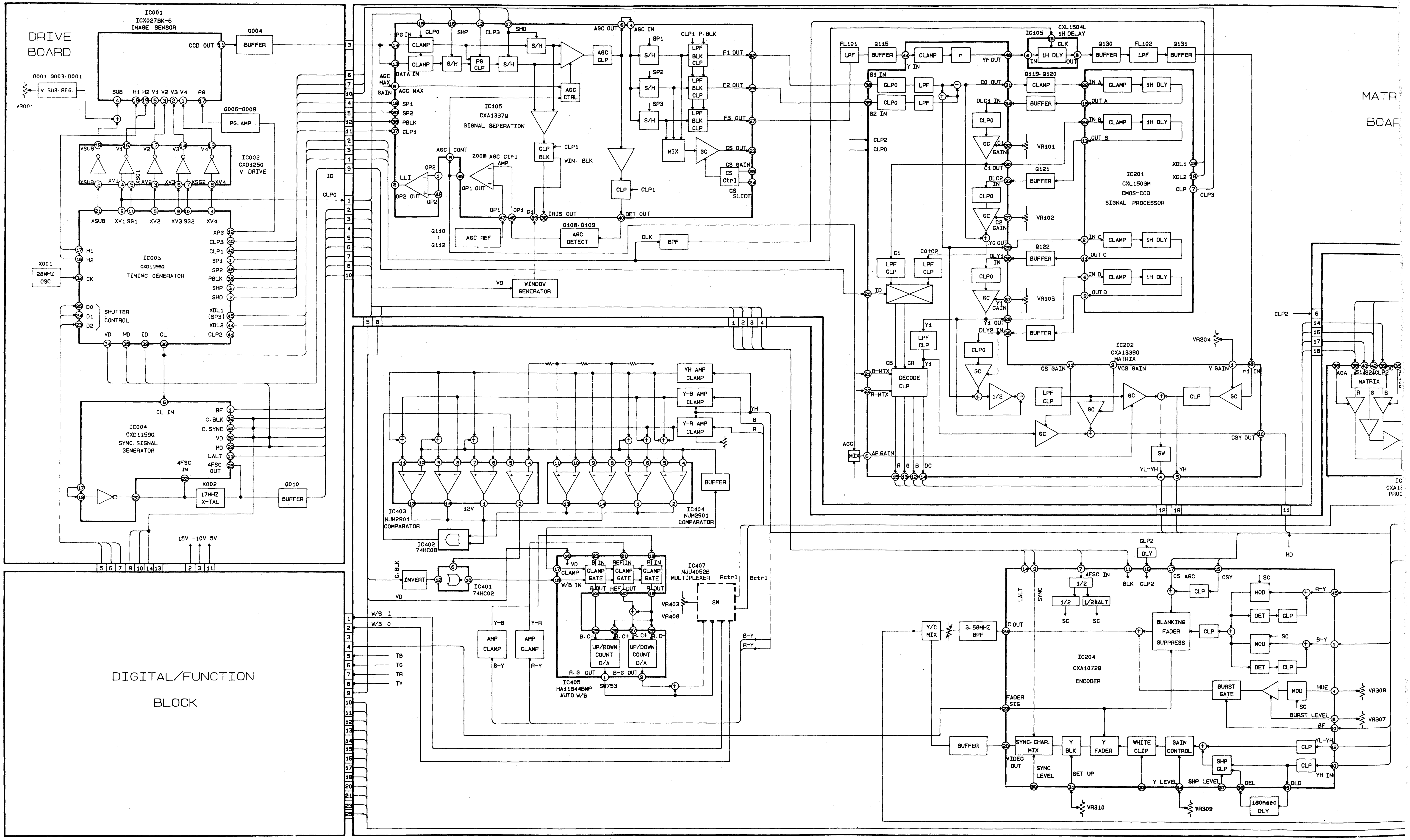

DRUM
FLYING ERASE
VIDEO HEAD CH1
VIDEO HEAD CH2
CN101
3
9
6
EF(X)
IC
REC/
29
32
28
33

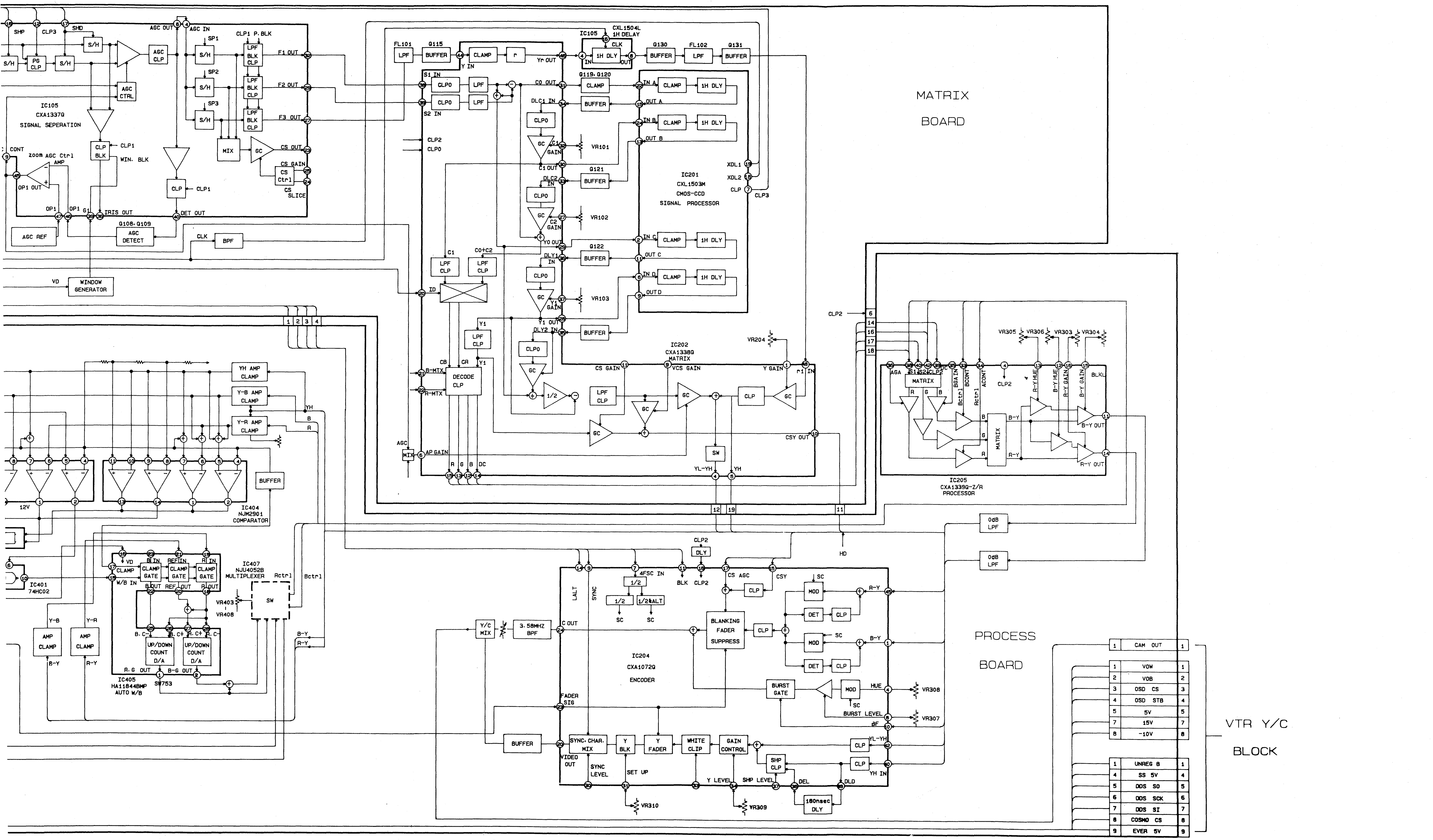

SP/LP
(SYSTEM CONTROL)
AUDIO 5V
W951
AUDIO 5V
MIC IN
13
12
CN751
CN752
AUDIO 5V
MIC IN
1
2
CN481
CURRENT LIMITER
MIC +B REG
MIC AMP
8
7
2
1
5
LOW CUT FILTER
J482
MIC DC OUT
CN481
MIC UNIT
J481
MIC
36
35
MOA
REC
PB
34
WEIGHTING FILTER
31
AGC DET
DET
30
EMPHSIS 2
VCA
EMPHASIS 1
27
5dB AMP
26
BUFFER
25
23
TIME CONSTANT SWICH
Q438
Q436. Q437
LINE AMP
MUTE
EARPHONE OUT
CAM/LINE
(SYSTEM CONTROL)
AUDIO MUTE
(SYSTEM CONTROL)
W501
CN501
AUDIO IN
AUDIO OUT
4
2
J203
AUDIO IN
J202
AUDIO OUT
W951
CN751
10
J752

9-7. Pre-Amp

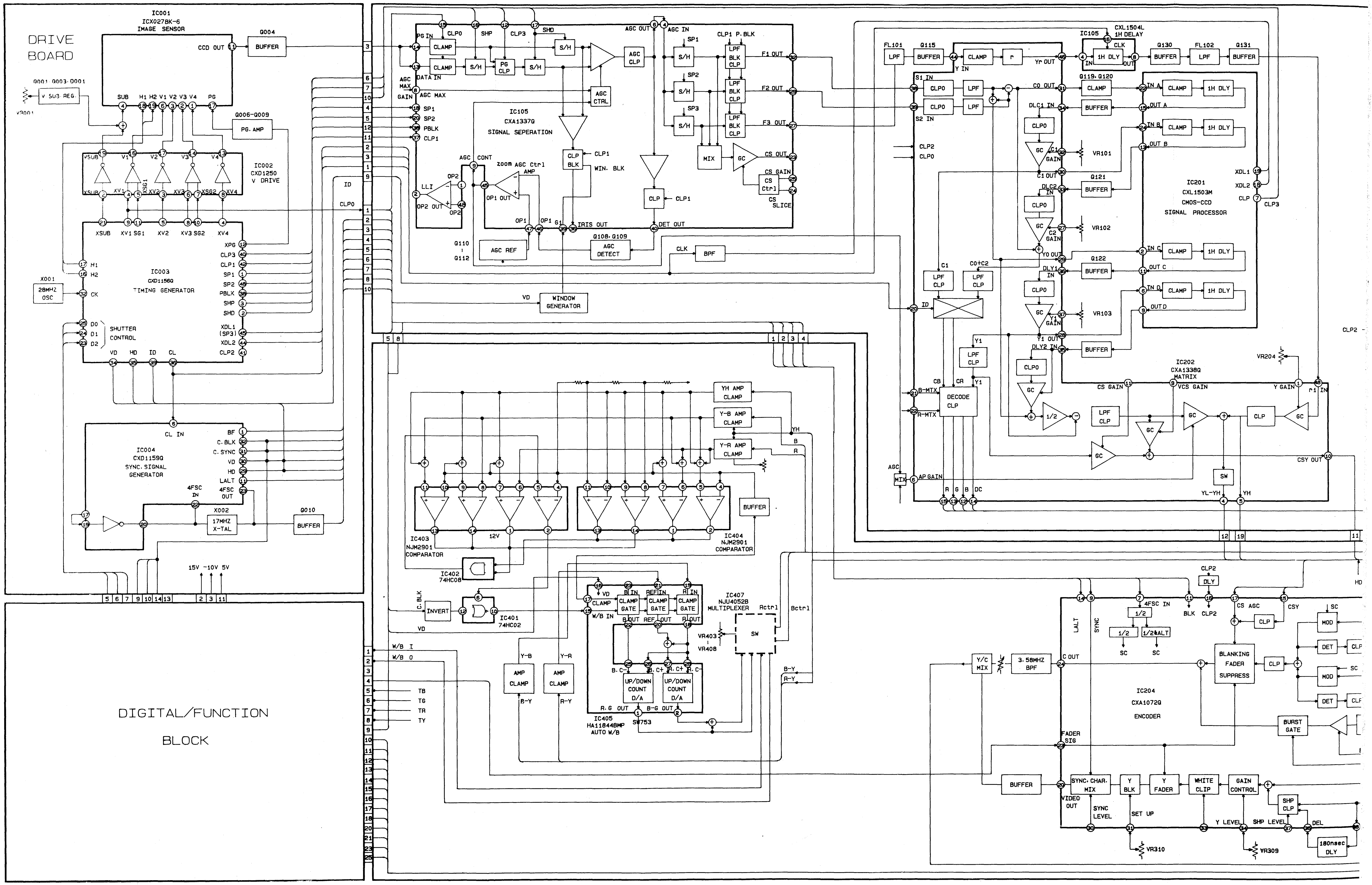

DRUM
FLYING ERASE
VIDEO HEAD CH1
VIDEO HEAD CH2
EF(X)
3
9
6
CN101
IC101
REC/PB AMP
RV101
CH1 PB EQ
23
29
32
CH1 HEAD AMP
CH1 EQ AMP
CH2 HEAD AMP
CH2 EQ AMP
CH1
CH2
CH1
CH2
8
20
14
12
11
9
RF AGC DET
RF AGC AMP
10
Q109, 110
RF AMP
18
DOC P INHIBIT
Q116
13
DOC DET
15
TIME CONSTANT SWICH
Q114 JOG
IC501 8
SERVO/SYSCON
16
PB RF BUFFER
Q102
PB RF OUT
PB Y+C
39
41
45
47
1
CONTROL LOGIC
JOG
IC501 30
SERVO/SYSCON
IC501 7
RF SWITCH PULSE
RF SWP
IC501 80
SERVO/SYSCON
5
4
3
CN102
DRUM FPC
SERVO/SYSCON
VA PB MODE
(IC501 9)
DOC PULSE
8
1
W502
CN252
38
RV301
CH2 PB EQ
TP101
25
24
Y/C/AFM/ATF MIX
V
P
V
P
28
CH1 PRE AMP
33
CH2 PRE AMP
YCA
C/AFM/ATF MIX
PCM/ATF MIX
NORMAL
YCA
VCA
MULTI
6DB AMP
Y
6
C
2
AFM
4
PCM
48
ATF
46
44
REC Y RF
IC101 39 REC/PB
REC C RF
REC AFM RF
AUDIO
REC ATF RF
SERVO/SYSCON
6
4
5
3
36
37
42
ME/MP
CN501 11
SERVO/SYSCON
ERASE CURRENT SWICH
TP103
Q112
AMP
Q113
FLYING ERSE OSC
SERVO/SYSCON
ON FE
IC501 78

9-8. CAMERA (1)

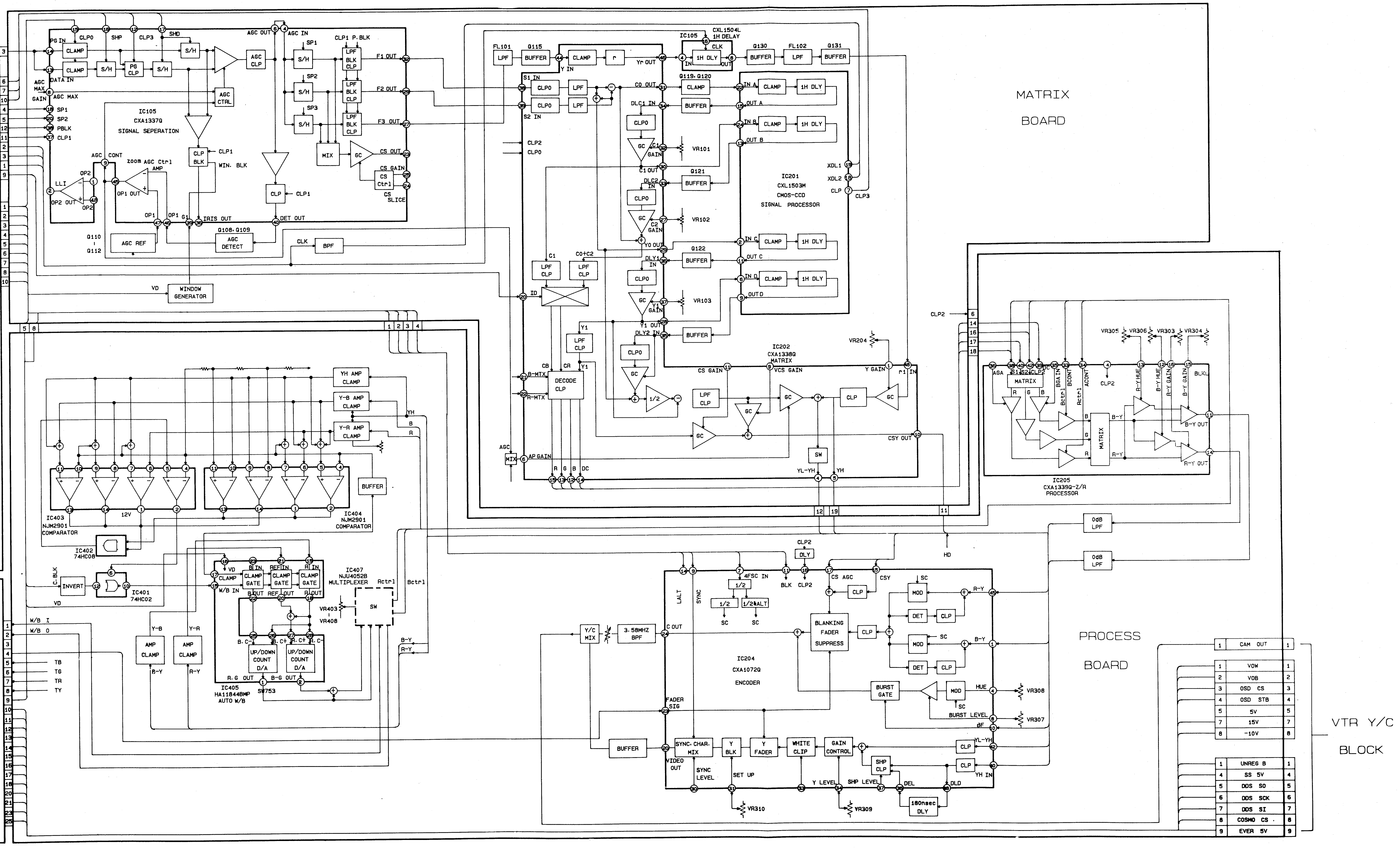

DRIVE BOARD
IC001 ICX027BK-6 IMAGE SENSOR
CCD OUT
Q004 BUFFER
Q001 Q003 Q001
V SUB REG.
VR001
SUB H1 H2 V1 V2 V3 V4 PG
Q006-Q009 PG. AMP
IC002 CXD1250 V DRIVE
VSUB V1 V2 V3 V4
XSUB XV1 XSG1 XV2 XV3 XSG2 XV4
X001 28MHZ OSC
IC003 CXD1156Q TIMING GENERATOR
H1 H2 CK
D0 D1 D2 SHUTTER CONTROL
XPG CLP3 CLP1 SP1 SP2 PBLK SHP SHD XDL1 (SP3) XDL2 CLP2
VD HD ID CL
IC004 CXD1159Q SYNC. SIGNAL GENERATOR
CL IN
BF C.BLK C.SYNC VD HD LALT 4FSC OUT 4FSC IN
X002 17MHZ X-TAL
Q010 BUFFER
15V -10V 5V
ID CLPO
IC105 CXA1337Q SIGNAL SEPERATION
PG IN CLPO SHP CLP3 SHD
CLAMP S/H PG CLP AGC CLP AGC CTRL
AGC MAX GAIN DATA IN
SP1 SP2 PBLK CLP1
AGC CONT zoom AGC Ctrl AMP
LLI OP2 OP2 OUT OP1 OUT
CLP BLK WIN. BLK
IRIS OUT DET OUT
Q110 Q112 AGC REF
Q108, Q109 AGC DETECT
CLK BPF
VD WINDOW GENERATOR
AGC OUT AGC IN
CLP1 P.BLK
LPF BLK CLP
F1 OUT F2 OUT F3 OUT
MIX GC CS OUT CS GAIN CS Ctrl CS SLICE
FL101 LPF Q115 BUFFER CLAMP γ Yr OUT Y IN
IC105 CXL1504L 1H DELAY CLK 1H DLY
Q130 BUFFER FL102 LPF Q131 BUFFER
S1 IN S2 IN CLPO LPF CO OUT
Q119, Q120 CLAMP
DLC1 IN BUFFER
C1 GAIN C1 OUT VR101
Q121 BUFFER DLC2 IN
C2 GAIN VR102 YO OUT
Q122 BUFFER DLY1 IN
Y1 GAIN VR103 Y1 OUT DLY2 IN BUFFER
IC201 CXL1503M CMOS-CCD SIGNAL PROCESSOR
IN A OUT A IN B OUT B IN C OUT C IN D OUT D CLAMP 1H DLY
XDL1 XDL2 CLP CLP3
CLP2 CLPO
C1 C0+C2 LPF CLP
ID
Y1 LPF CLP
CB CR Y1 B-MTX R-MTX DECODE CLP
1/2
IC202 CXA1338Q MATRIX
CS GAIN VCS GAIN Y GAIN r1 IN
LPF CLP GC CLP
AGC MIX AP GAIN
R G B DC
SW YL-YH YH
CSY OUT
VR204
MATRIX BOARD
CLP2
AGA MATRIX R G B
IC CXA1 PROC
HD
YH AMP CLAMP Y-B AMP CLAMP Y-R AMP CLAMP
YH B R
BUFFER
12V
IC403 NJM2901 COMPARATOR
IC404 NJM2901 COMPARATOR
IC402 74HC08
C.BLK INVERT
IC401 74HC02
VD
IC405 HA11844BMP AUTO W/B
VD CLAMP W/B IN B IN REFIN R IN CLAMP GATE B OUT REF OUT R OUT
B.C- B.C+ R.C+ R.C-
UP/DOWN COUNT D/A
R.G OUT B-G OUT
SW753
IC407 NJU4052B MULTIPLEXER Rctrl Bctrl SW
VR403 VR408
Y-B Y-R AMP CLAMP B-Y R-Y
B-Y R-Y
W/B I W/B O
TB TG TR TY
DIGITAL/FUNCTION BLOCK
CLP2 DLY
IC204 CXA1072Q ENCODER
LALT SYNC 4FSC IN 1/2 1/2 1/2ALT SC SC
BLK CLP2 CS AGC CSY CLP
BLANKING FADER SUPPRESS
MOD DET CLP SC R-Y B-Y
BURST GATE MOD HUE VR308 BURST LEVEL VR307 ØF
Y/C MIX 3.58MHZ BPF C OUT
FADER SIG
BUFFER
SYNC, CHAR. MIX Y BLK Y FADER WHITE CLIP GAIN CONTROL
VIDEO OUT SYNC LEVEL SET UP Y LEVEL SHP LEVEL DEL DLD
SHP CLP CLP YL-YH YH IN
180nsec DLY
VR310 VR309


MATRIX
BOARD
PROCESS
BOARD
VTR Y/C
BLOCK
IC105
CXA1337Q
SIGNAL SEPERATION
AGC OUT
AGC IN
SHP
CLP3
SHD
S/H
PG CLP
AGC CLP
AGC CTRL
SP1
SP2
SP3
CLP1 P.BLK
LPF BLK CLP
F1 OUT
F2 OUT
F3 OUT
MIX
GC
CS OUT
CS GAIN
CS Ctrl
CS SLICE
CLP BLK
CLP1
WIN. BLK
CONT
zoom AGC Ctrl
AMP
OP1 OUT
OP1
G1
IRIS OUT
DET OUT
AGC REF
Q108, Q109
AGC DETECT
CLK
BPF
VD
WINDOW GENERATOR
FL101
LPF
Q115
BUFFER
CLAMP
γ
Yr OUT
Y IN
IC105
CXL1504L
1H DELAY
1H DLY
Q130
FL102
Q131
S1 IN
S2 IN
CLPO
CO OUT
DLC1 IN
C1 GAIN
C1 OUT
DLC2 IN
C2 GAIN
YO OUT
DLY1 IN
Y1 GAIN
Y1 OUT
DLY2 IN
CLP2
Q119, Q120
Q121
Q122
VR101
VR102
VR103
IN A
OUT A
IN B
OUT B
IN C
OUT C
IN D
OUT D
IC201
CXL1503M
CMOS-CCD
SIGNAL PROCESSOR
XDL1
XDL2
CLP
ID
C1
CO+C2
LPF CLP
Y1
B-MTX
R-MTX
CB
CR
DECODE CLP
1/2
IC202
CXA1338Q
MATRIX
CS GAIN
VCS GAIN
Y GAIN
r1 IN
VR204
CSY OUT
SW
YL-YH
YH
AGC
MIX
AP GAIN
R G B DC
CLP2
IC205
CXA1339Q-Z/R
PROCESSOR
VR305
VR306
VR303
VR304
AGA
S1
S2
CLP2
MATRIX
BGAIN
BCONT
Bctrl
Rctrl
ACONT
R-Y HUE
B-Y HUE
R-Y GAIN
B-Y GAIN
BLKL
B-Y OUT
R-Y OUT
B-Y
R-Y
0dB LPF
HD
YH AMP CLAMP
Y-B AMP CLAMP
Y-R AMP CLAMP
BUFFER
12V
IC404
NJM2901
COMPARATOR
IC401
74HC02
VD
CLAMP
W/B IN
B IN
REF IN
R IN
CLAMP GATE
B OUT
REF OUT
R OUT
IC407
NJU4052B
MULTIPLEXER
Rctrl
Bctrl
VR403
VR408
SW
B-Y
R-Y
B.C-
B.C+
R.C+
R.C-
UP/DOWN COUNT D/A
R.G OUT
B-G OUT
IC405
HA11844BMP
AUTO W/B
SW753
Y-B
Y-R
AMP CLAMP
CLP2
DLY
LALT
SYNC
4FSC IN
BLK
CS AGC
CSY
1/2
1/2ALT
SC
Y/C MIX
3.58MHZ BPF
C OUT
IC204
CXA1072Q
ENCODER
BLANKING FADER SUPPRESS
MOD
DET
R-Y
B-Y
HUE
VR308
BURST GATE
BURST LEVEL
VR307
øF
FADER SIG
BUFFER
VIDEO OUT
SYNC. CHAR. MIX
SYNC LEVEL
Y BLK
SET UP
VR310
Y FADER
WHITE CLIP
GAIN CONTROL
Y LEVEL
SHP LEVEL
VR309
SHP CLP
DEL
DLD
180nsec DLY
YL-YH
YH IN
1 CAM OUT 1
1 VOW 1
2 VOB 2
3 OSD CS 3
4 OSD STB 4
5 5V 5
7 15V 7
8 -10V 8
1 UNREG 8 1
4 SS 5V 4
5 DDS SO 5
6 DDS SCK 6
7 DDS SI 7
8 COSMO CS 8
9 EVER 5V 9

9-8. CAMERA (1)



DRIVE BOARD
IC001 ICX027BK-6 IMAGE SENSOR
CCD OUT
BUFFER
Q004
SUB H1 H2 V1 V2 V3 V4 PG
Q001 Q003 Q001
V SUB REG.
Q006-Q009
PG. AMP
IC002 CXD1250 V DRIVE
VSUB V1 V2 V3 V4
XSUB XV1 XSG1 XV2 XV3 XSG2 XV4
IC003 CXD1156Q TIMING GENERATOR
X001 28MHz OSC
H1 H2 CK
D0 D1 D2 SHUTTER CONTROL
XPG CLP3 CLP1 SP1 SP2 PBLK SHP SHD XDL1 (SP3) XDL2 CLP2
VD HD ID CL
IC004 CXD1159Q SYNC. SIGNAL GENERATOR
CL IN
BF C.BLK C.SYNC VD HD LALT 4FSC OUT
4FSC IN
X002 17MHZ X-TAL
Q010 BUFFER
15V -10V 5V
ID
CLP0
IC105 CXA1337Q SIGNAL SEPERATION
PG IN CLP0 SHP CLP3 SHD
CLAMP S/H PG CLP
AGC OUT AGC IN AGC CLP
AGC MAX GAIN DATA IN AGC MAX
AGC CTRL
SP1 SP2 PBLK CLP1
AGC CONT
zoom AGC Ctrl AMP
LLI OP2 OP2 OUT OP1 OUT
CLP BLK CLP1 WIN. BLK
IRIS OUT DET OUT
Q108, Q109 AGC DETECT
Q110 - Q112
AGC REF
CLK BPF
VD WINDOW GENERATOR
SP1 SP2 SP3
CLP1 P.BLK
LPF BLK CLP
F1 OUT F2 OUT F3 OUT
MIX GC CS OUT CS GAIN CS Ctrl CS SLICE
FL101 LPF Q115 BUFFER CLAMP r Yr OUT Y IN
IC105 CXL1504L 1H DELAY CLK IN 1H DLY OUT
Q130 BUFFER FL102 LPF Q131 BUFFER
S1 IN S2 IN CLP0 LPF
CLP2 CLP0
C0 OUT DLC1 IN C1 GAIN C1 OUT DLC2 IN C2 GAIN Y0 OUT DLY1 IN Y1 GAIN Y1 OUT DLY2 IN
VR101 VR102 VR103
Q119, Q120 CLAMP BUFFER Q121 BUFFER Q122 BUFFER BUFFER
IN A OUT A IN B OUT B IN C OUT C IN D OUT D
CLAMP 1H DLY
IC201 CXL1503M CMOS-CCD SIGNAL PROCESSOR
XDL1 XDL2 CLP CLP3
C1 C0+C2 LPF CLP ID
Y1 LPF CLP
CB CR Y1 B-MTX R-MTX DECODE CLP
1/2
AGC MIX AP GAIN
R G B DC
IC202 CXA1338Q MATRIX
CS GAIN VCS GAIN Y GAIN r1 IN
VR204
LPF CLP GC CLP
CSY OUT
SW YL-YH YH
CLP2
IC403 NJM2901 COMPARATOR
IC404 NJM2901 COMPARATOR
12V
YH AMP CLAMP
Y-B AMP CLAMP
Y-R AMP CLAMP
YH B R
BUFFER
IC402 74HC08
IC401 74HC02
C.BLK INVERT VD
IC405 HA11844BMP AUTO W/B
VD CLAMP B IN REF IN R IN CLAMP GATE W/B IN
B OUT REF OUT R OUT
B.C- B.C+ R.C+ R.C-
UP/DOWN COUNT D/A
R.G OUT B-G OUT
SW753
VR403 - VR408
IC407 NJU4052B MULTIPLEXER
Rctrl Bctrl SW
B-Y R-Y
Y-B AMP CLAMP B-Y
Y-R AMP CLAMP R-Y
W/B I W/B O
TB TG TR TY
DIGITAL/FUNCTION BLOCK
CLP2 DLY
LALT SYNC
4FSC IN 1/2 1/2 1/2ALT SC SC
BLK CLP2
CS AGC CSY CLP MOD DET
BLANKING FADER SUPPRESS
CLP SC
BURST GATE
Y/C MIX 3.58MHZ BPF C OUT
IC204 CXA1072Q ENCODER
FADER SIG
BUFFER
SYNC. CHAR. MIX VIDEO OUT
Y BLK Y FADER WHITE CLIP GAIN CONTROL
SHP CLP
SYNC LEVEL SET UP Y LEVEL SHP LEVEL DEL
180nsec DLY
VR310 VR309
HD


MATRIX BOARD
PROCESS BOARD
VTR Y/C BLOCK
IC105 CXA1337Q SIGNAL SEPERATION
CLAMP
S/H
PG CLP
AGC CLP
AGC CTRL
AGC OUT
AGC IN
SP1
SP2
SP3
PBLK
CLP1
CLP0
CLP3
SHP
SHD
PG IN
DATA IN
AGC MAX
AGC MAX GAIN
LPF BLK CLP
CLP1 P.BLK
F1 OUT
F2 OUT
F3 OUT
MIX
GC
CS OUT
CS GAIN
CS Ctrl
CS SLICE
CLP BLK
WIN. BLK
AGC CONT
zoom AGC Ctrl AMP
OP1 OUT
OP2 OUT
LLI
IRIS OUT
DET OUT
AGC REF
Q108, Q109 AGC DETECT
Q110 Q112
CLK
BPF
VD
WINDOW GENERATOR
FL101 LPF
Q115 BUFFER
Y IN
Yr OUT
S1 IN
S2 IN
CLP0
LPF
C0 OUT
DLC1 IN
C1 OUT
C1 GAIN
DLC2 IN
C2 GAIN
Y0 OUT
DLY1 IN
Y1 GAIN
Y1 OUT
DLY2 IN
VR101
VR102
VR103
IC105 CXL1504L 1H DELAY
1H DLY
Q130 BUFFER
FL102 LPF
Q131 BUFFER
Q119, Q120 CLAMP
Q121 BUFFER
Q122 BUFFER
IN A
OUT A
IN B
OUT B
IN C
OUT C
IN D
OUT D
IC201 CXL1503M CMOS-CCD SIGNAL PROCESSOR
XDL1
XDL2
CLP
CLP3
CLP2
CLP0
C1
C0+C2
LPF CLP
ID
Y1
DECODE CLP
B-MTX
R-MTX
CB
CR
AGC
MIX
AP GAIN
R G B DC
IC202 CXA1338Q MATRIX
CS GAIN
VCS GAIN
Y GAIN
r1 IN
VR204
1/2
SW
YL-YH
YH
CSY OUT
IC205 CXA1339Q-Z/R PROCESSOR
VR305
VR306
VR303
VR304
AGA
S1
S2
CLP2
BGAIN
BCONT
ACONT
Bctrl
Rctrl
R-Y HUE
B-Y HUE
R-Y GAIN
B-Y GAIN
BLKL
MATRIX
B-Y OUT
R-Y OUT
YH AMP CLAMP
Y-B AMP CLAMP
Y-R AMP CLAMP
BUFFER
IC403 NJM2901 COMPARATOR
IC404 NJM2901 COMPARATOR
12V
IC402 74HC08
C.BLK
INVERT
IC401 74HC02
VD
IC405 HA11844BMP AUTO W/B
VD
W/B IN
CLAMP GATE
B IN
REF IN
R IN
B OUT
REF OUT
R OUT
UP/DOWN COUNT D/A
B. C-
B. C+
R. C+
R. C-
R. G OUT
B-G OUT
SW753
IC407 NJU4052B MULTIPLEXER
VR403
VR408
Rctrl
Bctrl
SW
B-Y
R-Y
AMP CLAMP
Y-B
Y-R
W/B I
W/B O
TB
TG
TR
TY
0dB LPF
HD
CLP2
DLY
IC204 CXA1072Q ENCODER
LALT
SYNC
4FSC IN
1/2
1/2 ALT
SC
BLK
CS AGC
CSY
MOD
DET
BLANKING FADER SUPPRESS
C OUT
Y/C MIX
3.58MHZ BPF
FADER SIG
BURST GATE
HUE
VR308
BURST LEVEL
VR307
ØF
YL-YH
YH IN
BUFFER
VIDEO OUT
SYNC. CHAR. MIX
Y BLK
Y FADER
WHITE CLIP
GAIN CONTROL
SHP CLP
SYNC LEVEL
SET UP
Y LEVEL
SHP LEVEL
DEL
DLD
180nsec DLY
VR310
VR309
CAM OUT
VOW
VOB
OSD CS
OSD STB
5V
15V
-10V
UNREG B
SS 5V
DDS SO
DDS SCK
DDS SI
COSMO CS
EVER 5V

1	CAM OUT	1

1	VOW	1
2	VOB	2
3	OSD CS	3
4	OSD STB	4
5	5V	5
7	15V	7
8	-10V	8

1	UNREG B	1
4	SS 5V	4
5	DDS SO	5
6	DDS SCK	6
7	DDS SI	7
8	COSMO CS	8
9	EVER 5V	9

10. CIRCUIT BOARDS

Page

10-1. VTR SECTION

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Video (Bottom Side) ---------------- 10-14

Page

10-2. CAMERA SECTION

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Drive (Bottom side) - - - - - - - - - - - - - - - - - 10-20

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Digital (Bottom Side) - - - - - - - - - - - - - - - - 10-22

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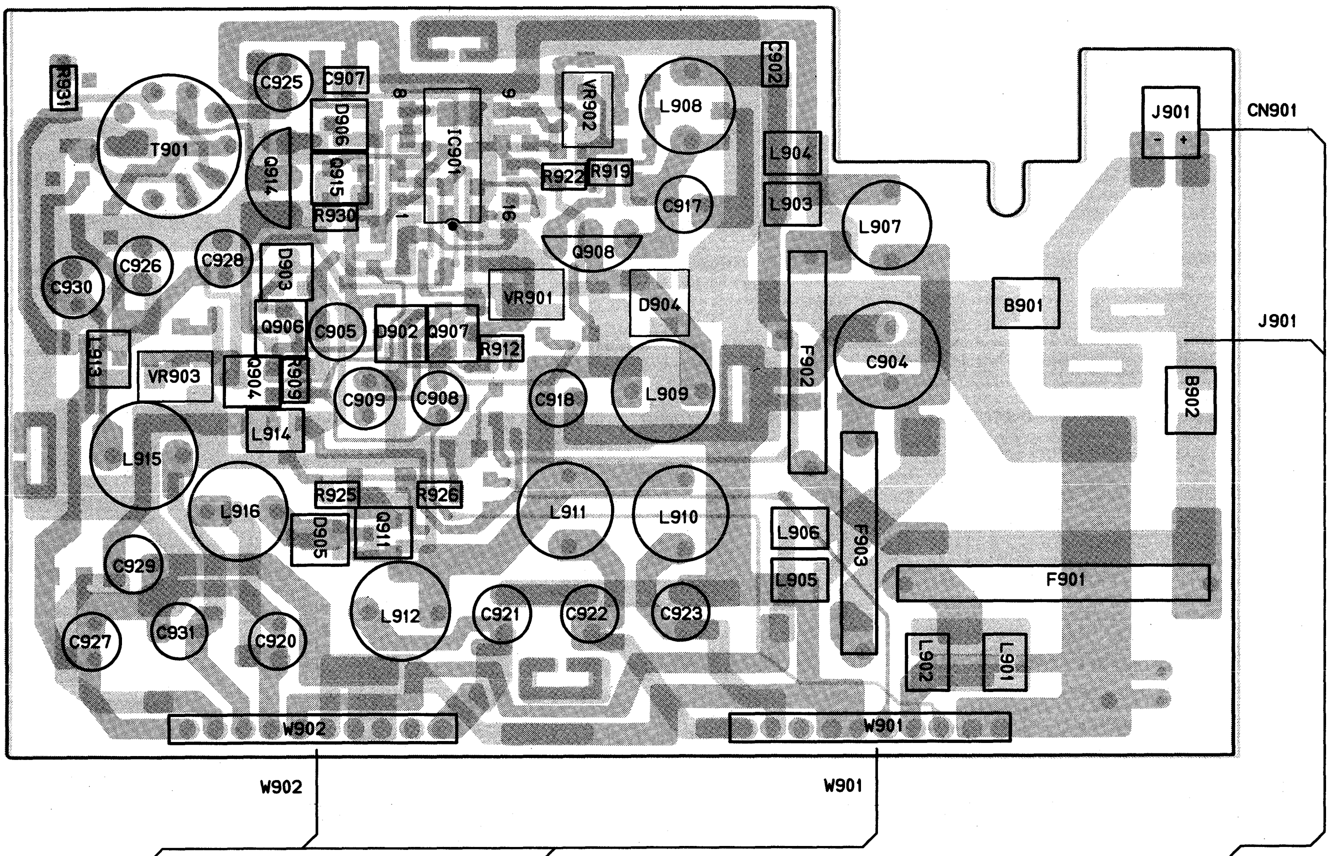
Process (Bottom Side) - - - - - - - - - - - - - - 10-26

10-1. VTR SECTION

10-1-1. DC/DC Converter (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side



R931
T901
C925
C907
D906
Q914
Q915
R930
IC901
8
9
1
16
VR902
L908
C902
R922
R919
C917
L904
L903
L907
J901
- +
CN901
C930
C926
C928
D903
Q908
VR901
D904
F902
B901
J901
Q906
C905
D902
Q907
R912
C904
L913
VR903
Q904
R909
C909
C908
C918
L909
B902
L914
L915
L916
R925
R926
D905
Q911
L911
L910
L906
F903
C929
L905
F901
C927
C931
C920
L912
C921
C922
C923
L902
L901
W902
W901
W902
W901

W902

1	20V	1	(W902)TO VIDEO BOARD
2	15V	2	
3	-10V	3	
4	CAM 5V	4	
5	CAM UNREG	5	
6	N.C	6	
7	CAM GND	7	
8	CAM GND	8	
9	N.C	9	
10	AUDIO 5V	10	

W901

1	VIDEO 5V	1	(W901)TO VIDEO BOARD
2	REG 5V	2	
3	N.C	3	
4	REG GND	4	
5	REG GND	5	
6	VTR DD ON	6	
7	MT UNREG	7	
8	CAM DD ON	8	
9	MT GND	9	
10	MT GND	10	

J901

BATTERY (+)	1
BATTERY (-)	2

J901

CN901

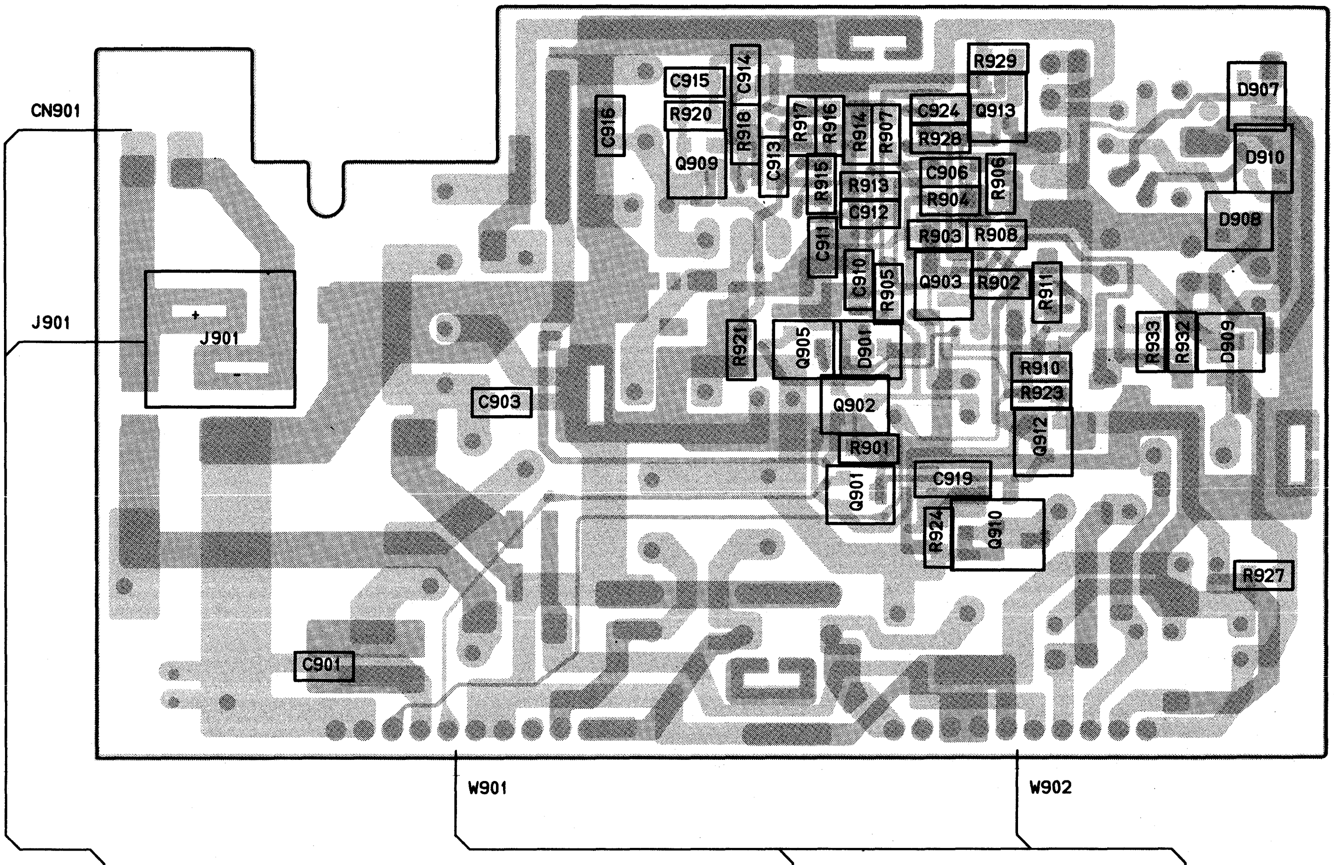
BATTERY (+)	1
BATTERY (-)	2

CN901

10-1-1. DC/DC Converter (Bottom Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side


CN901
J901
+
J901
-
C915
C914
R920
R918
Q909
C916
C913
R917
R916
R914
R907
C924
Q913
R929
D907
R928
D910
R915
R913
C906
R904
R906
C912
D908
R903
R908
C911
C910
R905
Q903
R902
R911
R921
Q905
D901
R933
R932
D909
C903
R910
R923
Q902
Q912
R901
C919
Q901
R924
Q910
R927
C901
W901
W902

J901

J901	1	BATTERY (+)
	2	BATTERY (-)

CN901

CN901	1	BATTERY (+)
	2	BATTERY (-)

W901

TO VIDEO BOARD (W901)	1	VIDEO 5V	1
	2	REG 5V	2
	3	N.C	3
	4	REG GND	4
	5	REG GND	5
	6	VTR DD ON	6
	7	MT UNREG	7
	8	CAM DD ON	8
	9	MT GND	9
	10	MT GND	10

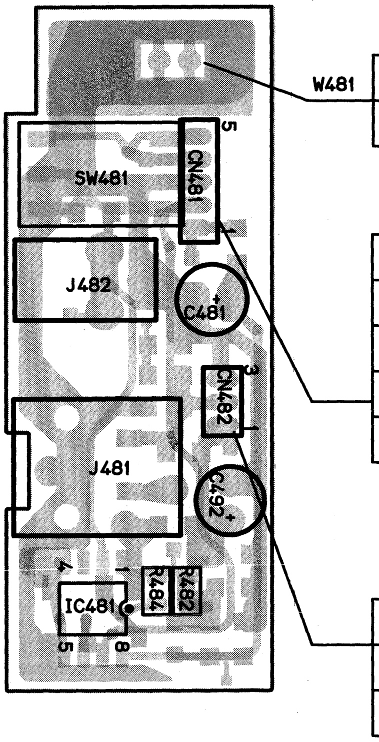
W902

TO VIDEO BOARD (W902)	1	20V	1
	2	15V	2
	3	-10V	3
	4	CAM 5V	4
	5	CAM UNREG	5
	6	N.C	6
	7	CAM GND	7
	8	CAM GND	8
	9	N.C	9
	10	AUDIO 5V	10

10-1-2. MIC (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side


W481
5
SW481
CN481
4
J482
+
C481
3
CN482
1
J481
C492
+
4
1
IC481
R484
R482
5
8

W481

W481			
1	MIC GND	1	TO PROCESS
2	MIC GND	2	

CN481

1	AUDIO 5V	1	TO START/STOP
2	MIC IN	2	
3	AUDIO GND	3	
4	START/STOP	4	
5	AUDIO GND	5	

CN751

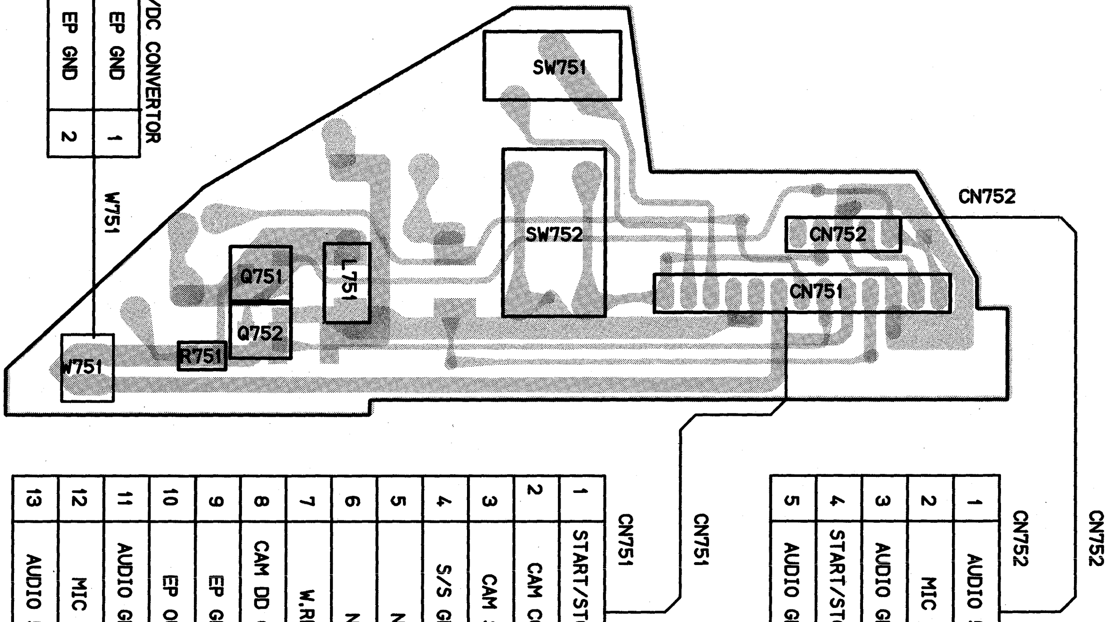
CN482

1	MIC +B	1	TO MIC
2	MIC IN	2	
3	MIC GND	3	

10-1-3. Start/Stop (Top Side)

1	EP GND	1	TO DC/DC CONVERTOR
2	EP GND	2	

W751


SW751
SW752
CN752
CN752
CN751
Q751
L751
Q752
R751
W751
CN751
CN752

CN751

1	START/STOP	1
2	CAM COM	2
3	CAM SW	3
4	S/S GND	4
5	N.C	5
6	N.C	6
7	W.REM	7
8	CAM DD ON	8
9	EP GND	9
10	EP OUT	10
11	AUDIO GND	11
12	MIC IN	12
13	AUDIO 5V	13
(W951) TO MAIN BOARD		

CN752

1	AUDIO 5V	1
2	MIC IN	2
3	AUDIO GND	3
4	START/STOP	4
5	AUDIO GND	5
TO MIC BOARD		

CN481

10-1-2. MIC (Bottom Side)

▒ : Pattern from the side which enables seeing

▒ : Pattern of the rear side

W481

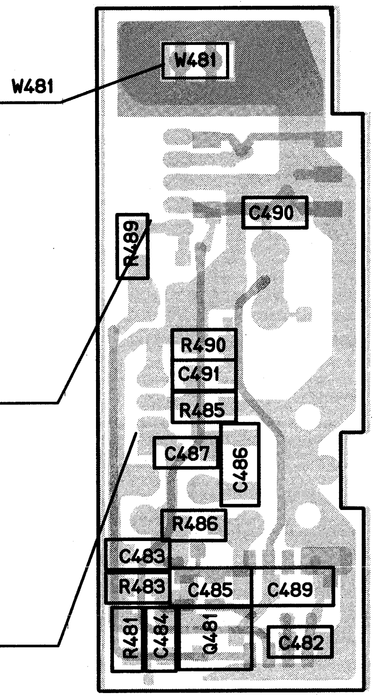
TO PROCESS	1	MIC GND	1
	2	MIC GND	2

CN481

CN751			
TO START/STOP	1	AUDIO 5V	1
	2	MIC IN	2
	3	AUDIO GND	3
	4	START/STOP	4
	5	AUDIO GND	5

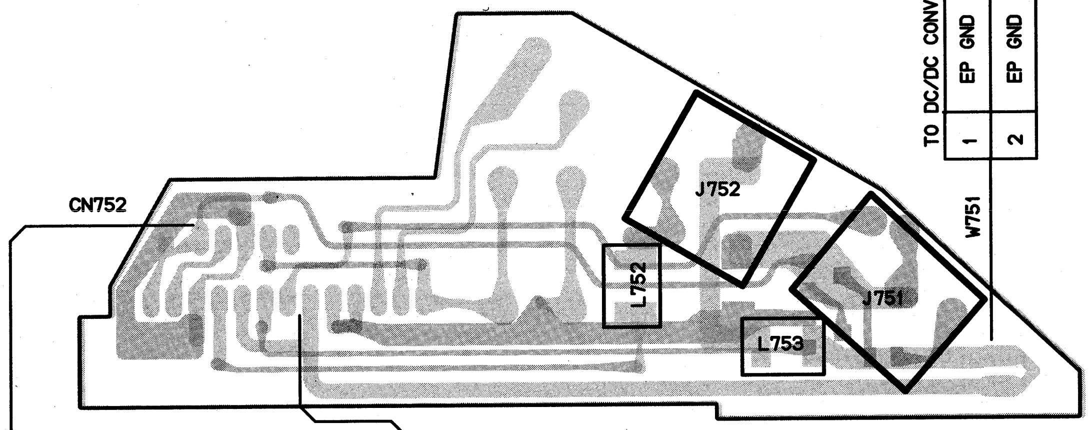
CN482

TO MIC	1	MIC +B	1
	2	MIC IN	2
	3	MIC GND	3


W481
W481
C490
R489
R490
C491
R485
C487
C486
R486
C483
R483
C485
C489
R481
C484
Q481
C482

10-1-3. Start/Stop (Bottom Side)

TO DC/DC CONVERTOR	1	EP GND	1
	2	EP GND	2


CN752
J752
L752
J751
L753
W751

CN752

CN752			
1	AUDIO 5V	1	TO MIC BOARD
2	MIC IN	2	
3	AUDIO GND	3	
4	START/STOP	4	
5	AUDIO GND	5	

CN481

CN751

CN751			
1	START/STOP	1	TO MAIN BOARD (W951)
2	CAM COM	2	
3	CAM SW	3	
4	S/S GND	4	
5	N.C	5	
6	N.C	6	
7	W.REM	7	
8	CAM DD ON	8	
9	EP GND	9	
10	EP OUT	10	
11	AUDIO GND	11	
12	MIC IN	12	
13	AUDIO 5V	13	

10-1-4. Deck (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side

CN002

TO DECK ASSY

1	COM	1
2	ME/MP	2
3	N.C	3
4	REC PROOF	4
5	TAPE LED	5
6	5V	6
7	TOP SENS	7
8	T RL LED	8
9	T FG	9
10	5V	10
11	T RL LED	11

W001

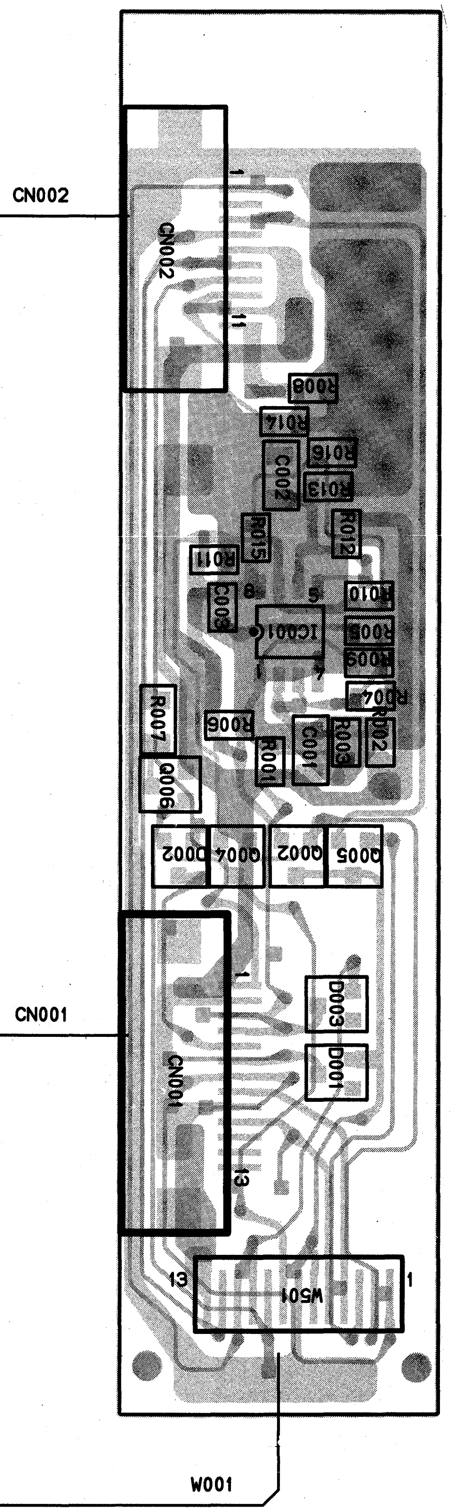
TO MAIN BOARD (CN501)

1	M OUT 0	1
2	M OUT 3	2
3	M OUT 4	3
4	CC DOWN	4
5	END SENS	5
6	M IN 0	6
7	GND	7
8	M IN 1	8
9	T/R LED	9
10	M IN 2	10
11	ME/MP	11
12	TOP SENS	12
13	5V	13

CN001

TO DECK ASSY

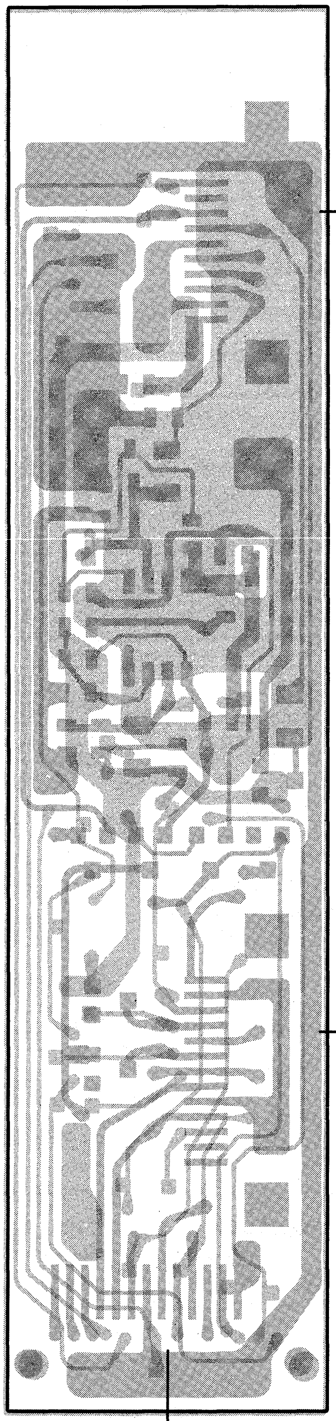
1	T/S SENS	1
2	5V	2
3	S FG	3
4	MODE SW2	4
5	MODE SW1	5
6	MODE SW0	6
7	COM	7
8	CC DOWN	8
9	5V	9
10	END SENS	10
11	13/10	11
12	COM	12
13	N.C	13


CN002
CN002
1
11
R008
R014
R016
C002
R013
R015
R012
R011
C003
8
5
R010
IC001
R005
R009
1
4
R004
R007
R006
R001
C001
R003
R002
Q006
D002
Q004
Q002
Q005
CN001
CN001
1
13
D003
D001
13
W501
1
W001

10-1-4. Deck (Bottom Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side



CN002

1	COM	1	TO DECK ASS Y
2	ME/MP	2	
3	N.C	3	
4	REC PROOF	4	
5	TAPE LED	5	
6	5V	6	
7	TOP SENS	7	
8	T RL LED	8	
9	T FG	9	
10	5V	10	
11	T RL LED	11	

CN001

1	T/S SENS	1	TO DECK ASS Y
2	5V	2	
3	S FG	3	
4	MODE SW2	4	
5	MODE SW1	5	
6	MODE SW0	6	
7	COM	7	
8	CC DOWN	8	
9	5V	9	
10	END SENS	10	
11	13/10	11	
12	COM	12	
13	N.C	13	

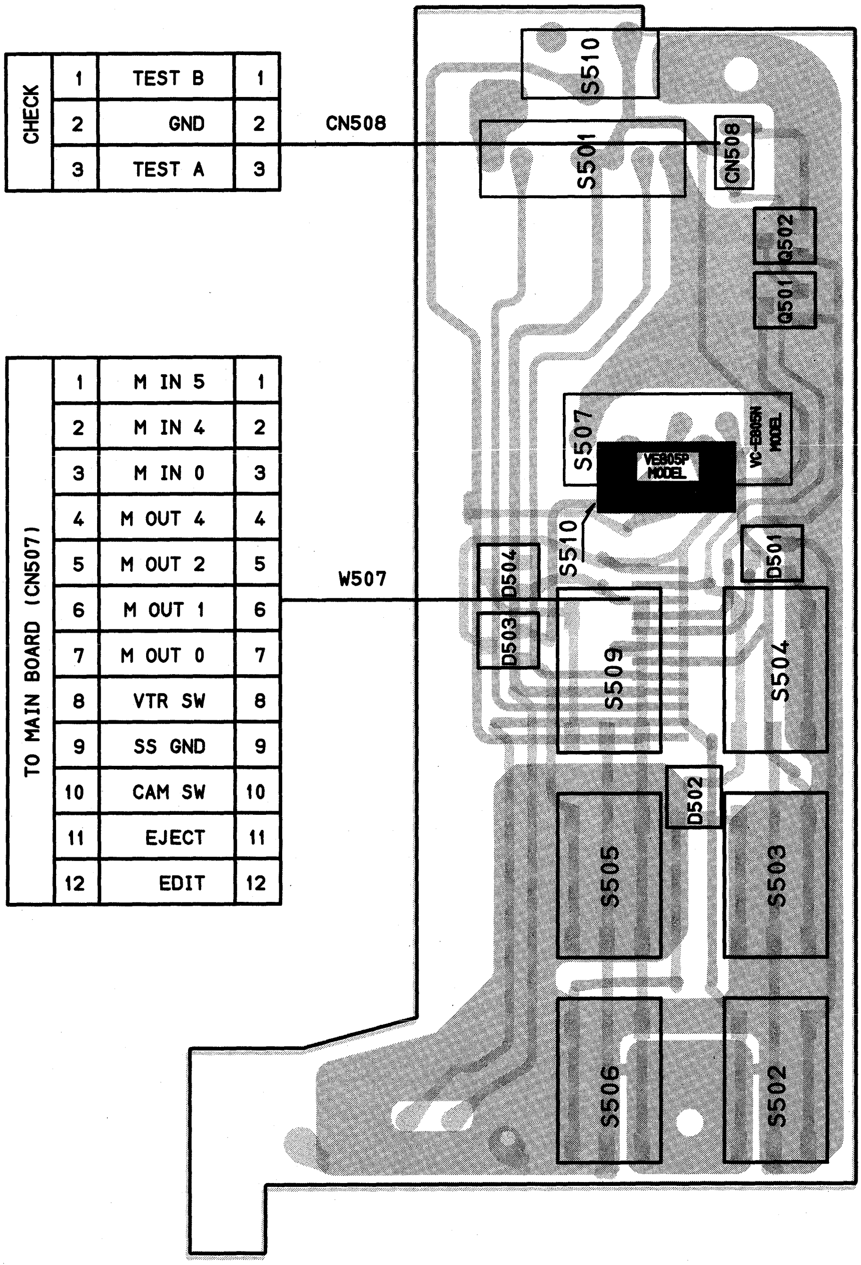
W001

1	M OUT 0	1	TO MAIN BOARD (CN501)
2	M OUT 3	2	
3	M OUT 4	3	
4	CC DOWN	4	
5	END SENS	5	
6	M IN 0	6	
7	GND	7	
8	M IN 1	8	
9	T/R LED	9	
10	M IN 2	10	
11	ME/MP	11	
12	TOP SENS	12	
13	5V	13	

10-1-5. VTR Function (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side



CHECK			
1	TEST B	1	
2	GND	2	CN508
3	TEST A	3	

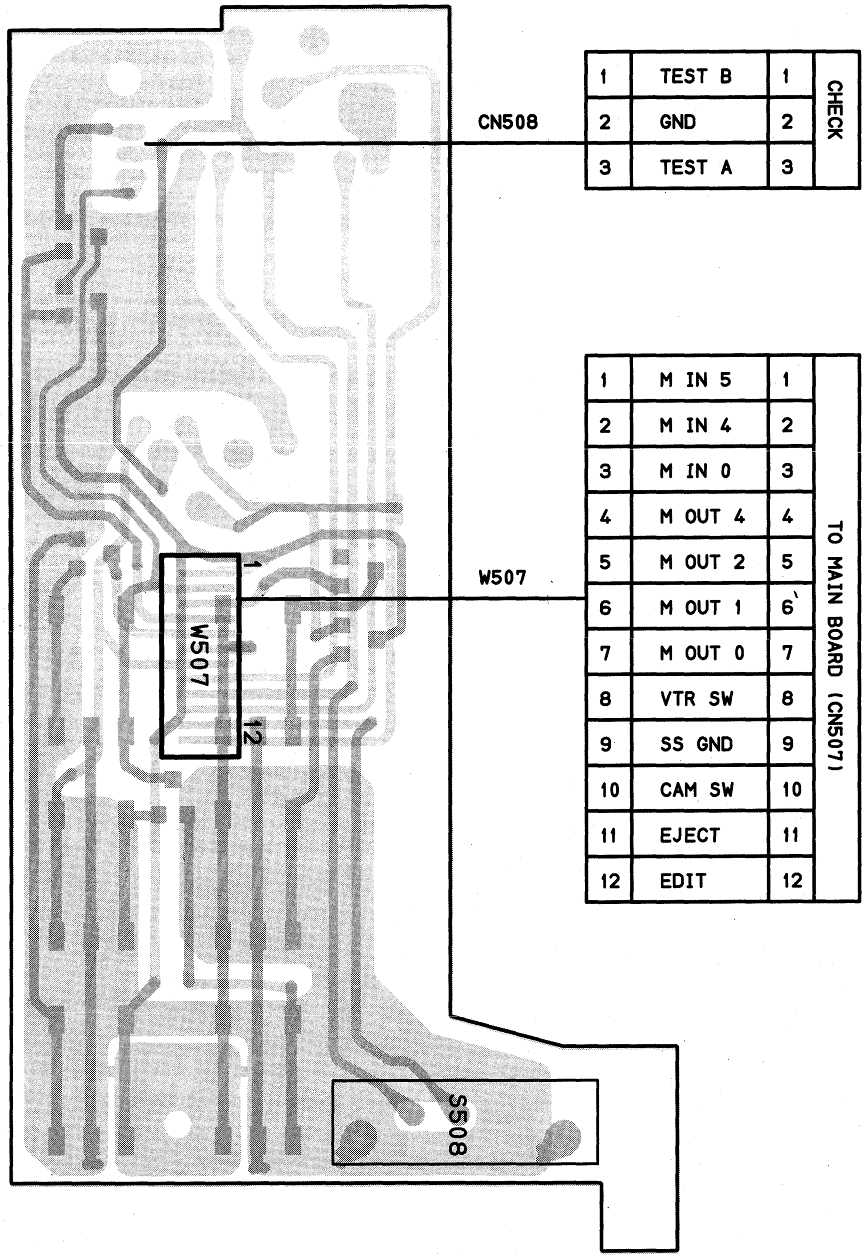
TO MAIN BOARD (CN507)			
1	M IN 5	1	
2	M IN 4	2	
3	M IN 0	3	
4	M OUT 4	4	
5	M OUT 2	5	
6	M OUT 1	6	W507
7	M OUT 0	7	
8	VTR SW	8	
9	SS GND	9	
10	CAM SW	10	
11	EJECT	11	
12	EDIT	12	

S510
S501
CN508
Q502
Q501
S507
VE805P MODEL
VC-E80GN MODEL
S510
D504
D503
D501
S509
S504
D502
S505
S503
S506
S502

10-1-5. VTR Function (Bottom Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side



1	TEST B	1	CHECK
2	GND	2	
3	TEST A	3	

1	M IN 5	1	TO MAIN BOARD (CN507)
2	M IN 4	2	
3	M IN 0	3	
4	M OUT 4	4	
5	M OUT 2	5	
6	M OUT 1	6	
7	M OUT 0	7	
8	VTR SW	8	
9	SS GND	9	
10	CAM SW	10	
11	EJECT	11	
12	EDIT	12	

10-1-6. Main (Top Side)

CN101

1	CH1 GND	1	TO DRUM MOTOR
2	CH1(Y)	2	
3	CH1(X)	3	
4	CH2 GND	4	
5	CH2(Y)	5	
6	CH2(X)	6	
7	CH1 GND	7	
8	CH1(Y)	8	
9	CH1(X)	9	
10	FE GND	10	
11	FE(Y)	11	
12	FE(X)	12	
13	GND	13	

CN506

1	DEW (+)	1	DEW
2	DEW (-)	2	

CN502

1	C FG BGND	1	TO CAPSTAN MOTOR (W502)
2	C FG VCC	2	
3	C FG (A)	3	
4	C FG (3)	4	
5	CAP W	5	
6	CAP U	6	
7	HE GND	7	
8	VHE (+)	8	
9	(-)VHE	9	
10	HE VCC	10	
11	UHE (+)	11	
12	(-)UHE	12	
13	CAP V	13	
14	WHE (+)	14	
15	WHE (-)	15	

CN505

1	L.M LOAD	1	L.M
2	L.M UNLOAD	2	

CN504

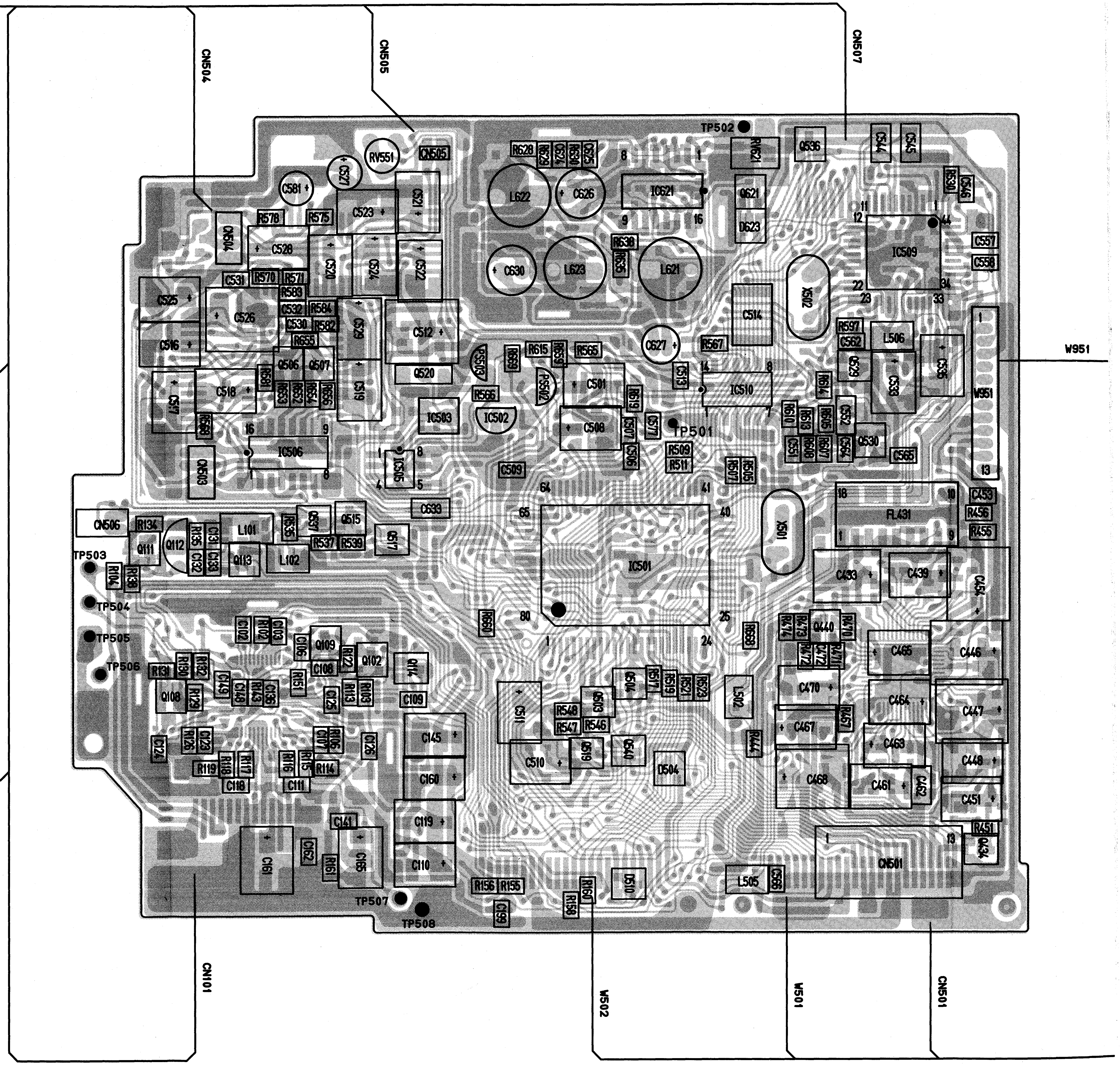
1	DRUM U	1	DRUM
2	DRUM V	2	
3	DRUM COM	3	
4	DRUM W	4	

CN503

1	D FG	1	DRUM
2	D PG	2	
3	FG/PG COM	3	
4	GND	4	

CN507

1	MIN 5	1	(W507) TO FUNCTION BOARD
2	MIN 4	2	
3	MIN 0	3	
4	M OUT 4	4	
5	M OUT 2	5	
6	M OUT 1	6	
7	M OUT 0	7	
8	VTR SW	8	
9	SS GND	9	
10	CAM SW	10	
11	EJECT	11	
12	EDIT	12	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CN506
CN505
CN504
CN503
CN502
CN507
W951
W502
W501
CN501
TP501
TP502
TP503
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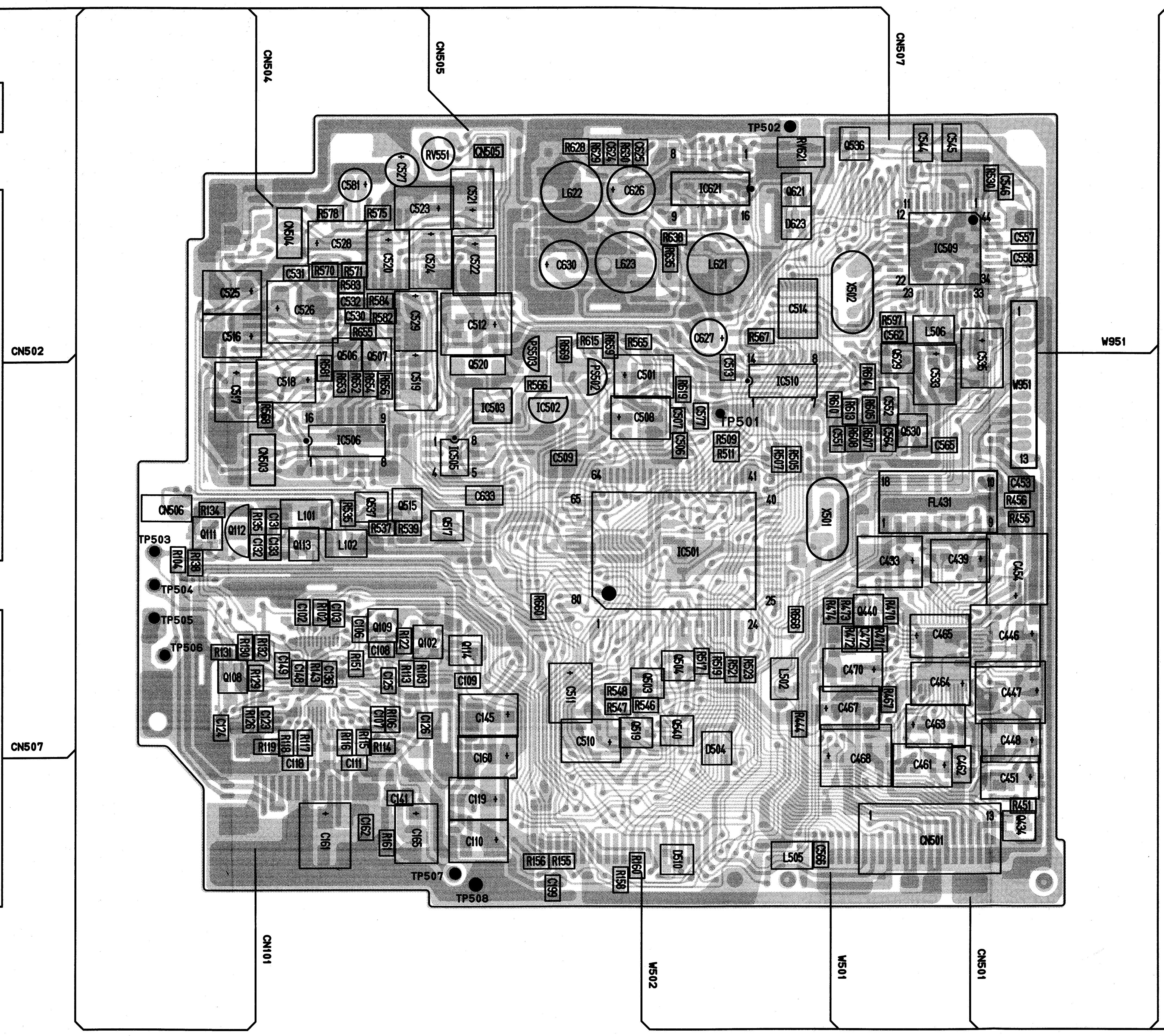
TP505
TP506
TP507
TP508
IC501
IC502
IC503
IC505
IC506
IC509
IC510
IC621
X501
X502
FL431
L101
L102
L505
L506
L621
L622
L623
RV551
RV621

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side


CN504
CN505
CN507
CN502
CN507
CN101
W502
W501
CN501
W951
TP502
TP501
TP503
TP504
TP505
TP506
TP507
TP508
IC501
IC502
IC503
IC505
IC506
IC509
IC510
IC621
FL431
X501
X502
L101
L102
L502
L505
L506
L621
L622
L623
RV551
RV621
CN505
CN506
CN501
W951
D504
D510
D623

CN501

1	0 M OUT	1	TO DECK BOARD (W501)
2	M OUT 3	2	
3	M OUT 4	3	
4	CC DOWN	4	
5	END SENS	5	
6	M IN 0	6	
7	GND	7	
8	M IN 1	8	
9	T/R LED	9	
10	M IN 2	10	
11	ME/MP	11	
12	TOP SENS	12	
13	5V	13	

W951

1	START/STOP	1	TO START/STOP BOARD (CN751)
2	CAM COM	2	
3	CAM SW	3	
4	S/S GND	4	
5	N.C	5	
6	N.C	6	
7	W.REM	7	
8	CAM DD ON	8	
9	EP GND	9	
10	EP OUT	10	
11	AUDIO GND	11	
12	MIC IN	12	
13	AUDIO 5V	13	

W501

1	AUDIO 5V	1	TO VIDEO BOARD (CN251)
2	AUDIO OUT	2	
3	AUDIO OUT	3	
4	AUDIO IN	4	
5	AUDIO IN	5	
6	AUDIO GND	6	
7	MT GND	7	
8	MT GND	8	
9	CAM DD ON	9	
10	MT UNREG	10	
11	MT UNREG	11	
12	VTR DD ON	12	
13	SS 5V	13	
14	VP SAVE	14	
15	SS GND	15	
16	STILL ADJ	16	
17	JOG	17	
18	COMP SYNC	18	
19	VIDEO MUTE	19	
20	JOG VD	20	
21	VIDEO CS	21	
22	SP/LP	22	

W502

1	VA PB	1	TO VIDEO BOARD (CN252)
2	RF SWP	2	
3	EVR 5V	3	
4	SYNC DET	4	
5	TALLY	5	
6	DADA SCN	6	
7	CAM UNREG	7	
8	COSMO CS	8	
9	COSMO SI	9	
10	COSMO SO	10	
11	COSMO SCK	11	
12	N.C	12	
13	N.C	13	
14	N.C	14	
15	N.C	15	
16	REC Y	16	
17	DOC P	17	
18	REC C	18	
19	RP 5V	19	
20	PB YC OUT	20	
21	RP GND	21	
22	RP GND	22	

10-1-6. Main (Bottom Side)

W951

W951

TO START/STOP BOARD (CN751)

1	START/STOP	1
2	CAM COM	2
3	CAM SW	3
4	S/S GND	4
5	N.C	5
6	N.C	6
7	W.REM	7
8	CAM DD ON	8
9	EP GND	9
10	EP OUT	10
11	AUDIO GND	11
12	MIC IN	12
13	AUDIO 5V	13

CN501

CN501

TO DECK BOARD (W501)

1	M OUT 0	1
2	M OUT 3	2
3	M OUT 4	3
4	CC DOWN	4
5	END SENS	5
6	M IN 0	6
7	GND	7
8	M IN 1	8
9	T/R LED	9
10	M IN 2	10
11	ME/MP	11
12	TOP SENS	12
13	5V	13

TO VIDEO BOARD (CN252)

1	VA PB	1
2	RF SWP	2
3	EVR 5V	3
4	SYNC DET	4
5	TALLY	5
6	DADA SCN	6
7	CAM UNREG	7
8	COSMO CS	8
9	COSMO SI	9
10	COSMO SO	10
11	COSMO SCK	11
12	N.C	12
13	N.C	13
14	N.C	14
15	N.C	15
16	REC Y	16
17	DOC P	17
18	REC C	18
19	RP 5V	19
20	PB YC OUT	20
21	RP GND	21
22	RP GND	22

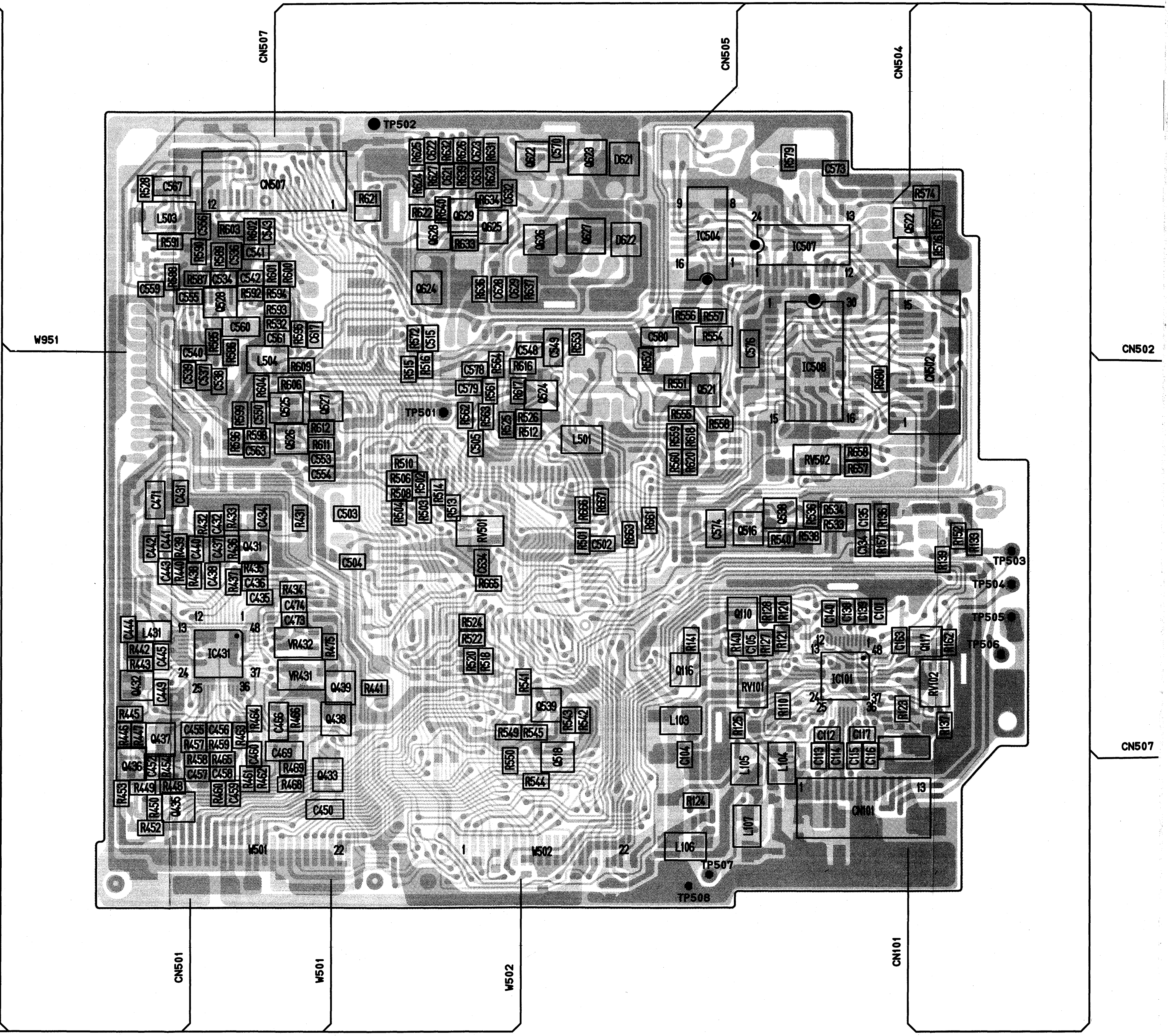
W502

W501

TO VIDEO BOARD (CN251)

1	AUDIO 5V	1
2	AUDIO OUT	2
3	AUDIO OUT	3
4	AUDIO IN	4
5	AUDIO IN	5
6	AUDIO GND	6
7	MT GND	7
8	MT GND	8
9	CAM DD ON	9
10	MT UNREG	10
11	MT UNREG	11
12	VTR DD ON	12
13	SS 5V	13
14	VP SAVE	14
15	SS GND	15
16	STILL ADJ	16
17	JOG	17
18	COMP SYNC	18
19	VIDEO MUTE	19
20	JOG VD	20
21	VIDEO CS	21
22	SP/LP	22

W501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CN505
CN504
CN502
CN507
W951
TP502
TP501
TP503
TP504
TP505
TP506
TP507
TP508
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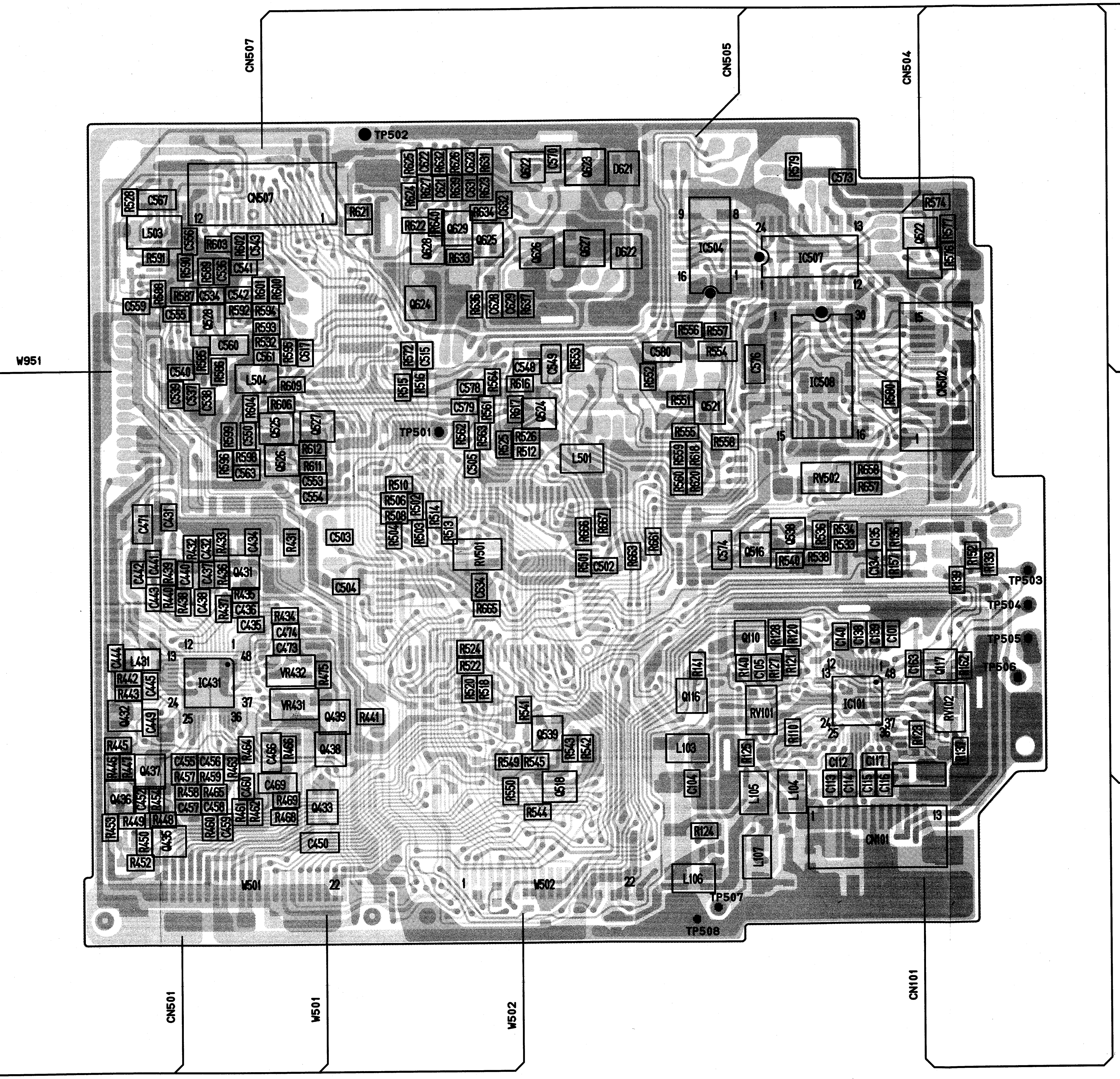
IC507
IC508
CN502
IC431
VR432
VR431
RV501
RV502
RV101
RV102
IC101
CN101
L501
L503
L504
L103
L105
L106
L107
L431
W501
W502
1
22
CN501
W501
W502
CN101


CN507
CN505
CN504
W951
TP502
TP501
TP503
TP504
TP505
TP506
TP507
TP508
CN501
W501
W502
CN101
IC504
IC507
IC508
IC431
IC101
RV501
RV502
RV101
RV102
VR431
VR432
L501
L503
L504
L431
L103
L104
L105
L106
L107
D621
D622
Q624
Q625
Q626
Q627
Q628
Q629
Q431
Q433
Q437
Q438
Q439
Q516
Q539
Q116

CN506

DEW	1	DEW (+)	1
	2	DEW (-)	2

CN502

TO CAPSTAN MOTOR (W502)	1	C FG BGND	1
	2	C FG VCC	2
	3	C FG (A)	3
	4	C FG (B)	4
	5	CAP W	5
	6	CAP U	6
	7	HE GND	7
	8	VHE (+)	8
	9	VHE (-)	9
	10	HE VCC	10
	11	UHE (+)	11
	12	UHE (-)	12
	13	CAP V	13
	14	WHE (+)	14
	15	WHE (-)	15

CN502

CN507

TO FUNCTION BOARD (W507)	1	MIN 5	1
	2	MIN 4	2
	3	MIN 0	3
	4	M OUT 4	4
	5	M OUT 2	5
	6	M OUT 1	6
	7	M OUT 0	7
	8	VTR SW	8
	9	SS GND	9
	10	CAM SW	10
	11	EJECT	11
	12	EDIT	12

CN507

CN101

TO DRUM MOTOR	1	CH1 GND	1
	2	CH1 (Y)	2
	3	CH1 (X)	3
	4	CH2 GND	4
	5	CH2 (Y)	5
	6	CH2 (X)	6
	7	CH1 GND	7
	8	CH1 (Y)	8
	9	CH1 (X)	9
	10	FE GND	10
	11	FE (Y)	11
	12	FE (X)	12
	13	GND	13

CN505

L.M	1	L.M LOAD	1
	2	L.M UNLOAD	2

CN505

CN504

DRUM	1	DRUM U	1
	2	DRUM V	2
	3	DRUM COM	3
	4	DRUM W	4

CN504

CN503

DRUM	1	D FG	1
	2	D PG	2
	3	FG/PG COM	3
	4	GND	4

CN503

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side

10-1-7. Video (Top Side)

J203

1	AUDIO IN	1	IN
2	AUDIO GND	2	

CN255

1	EVF 5V	1	EVF
2	EVF GND	2	
3	VIDEO OUT	3	
4	TALLY	4	

W902

1	20V	1	TO DC/DC CONVERTER
2	15V	2	
3	-10V	3	
4	CAM 5V	4	
5	CAM UNREG	5	
6	N.C	6	
7	CAM GND	7	
8	CAM GND	8	
9	N.C	9	
10	AUDIO 5V	10	

J202

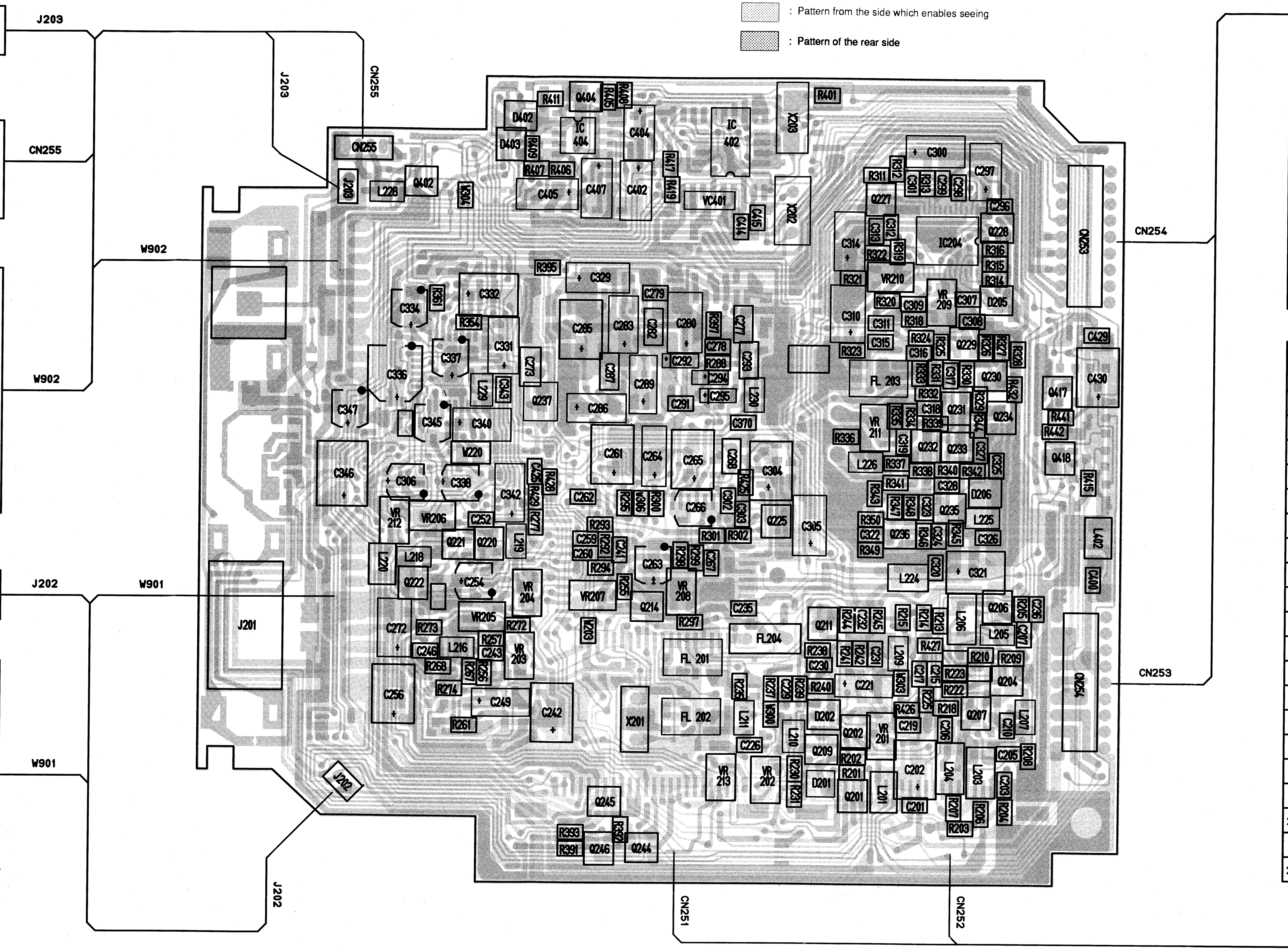
1	VIDEO IN	1	IN
2	VIDEO OUT	2	

W901

1	VIDEO 5V	1	TO DC/DC CONVERTER
2	REG 5V	2	
3	N.C	3	
4	REG GND	4	
5	REG GND	5	
6	VTR DD ON	6	
7	MT UNREG	7	
8	CAM DD ON	8	
9	MT GND	9	
10	MT GND	10	

░ : Pattern from the side which enables seeing

▓ : Pattern of the rear side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J203
CN255
CN255
W902
W902
J202
W901
W901
J202
CN251
CN252
CN253
CN254
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J202
J203
IC402
IC404
IC204
X201
X202
X203
FL 201
FL 202
FL 203
FL204
VC401
VR201
VR202
VR203
VR204
VR205
VR206
VR207
VR208
VR209
VR210
VR211
VR212
VR213
Q201
Q202
Q204
Q206
Q207
Q209
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Q221
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Q225
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Q229
Q230
Q231
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Q244
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Q246
Q402
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D201
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D205
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L204
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L206
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L211
L216
L218
L219
L220
L224
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L226
L228
L229
L230
L402
C202
C221
C242
C249
C254
C256
C261
C264
C265
C266
C272
C285
C286
C289
C300
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C332
C334
C336
C337
C338
C340
C342
C345
C346
C347
C402
C404
C405
C407
C429
C430
R401
R411
R395

CN254

1	DDS W	1	TO CAMERA (CN304)
2	DDS B	2	
3	OSD CS	3	
4	CG STB	4	
5	CAM 5V	5	
6	20V	6	
7	15V	7	
8	-10V	8	
9	CAM GND	9	

CN252

1	VA PB	1	TO MAIN (W502)
2	RF SWP	2	
3	EVR 5V	3	
4	SYNC DET	4	
5	TALLY	5	
6	DATA SCN	6	
7	CAM UNREG	7	
8	COSMO CS	8	
9	COSMO SI	9	
10	COSMO SO	10	
11	COSMO SCK	11	
12	N.C	12	
13	N.C	13	
14	N.C	14	
15	N.C	15	
16	REC Y	16	
17	DOC P	17	
18	REC C	18	
19	RP 5V	19	
20	PB YC OUT	20	
21	RP GND	21	
22	RP GND	22	

10-1-7. Video (Top Side)

J203

1	AUDIO IN	1	IN
2	AUDIO GND	2	

CN255

1	EVF 5V	1	EVF
2	EVF GND	2	
3	VIDEO OUT	3	
4	TALLY	4	

W902

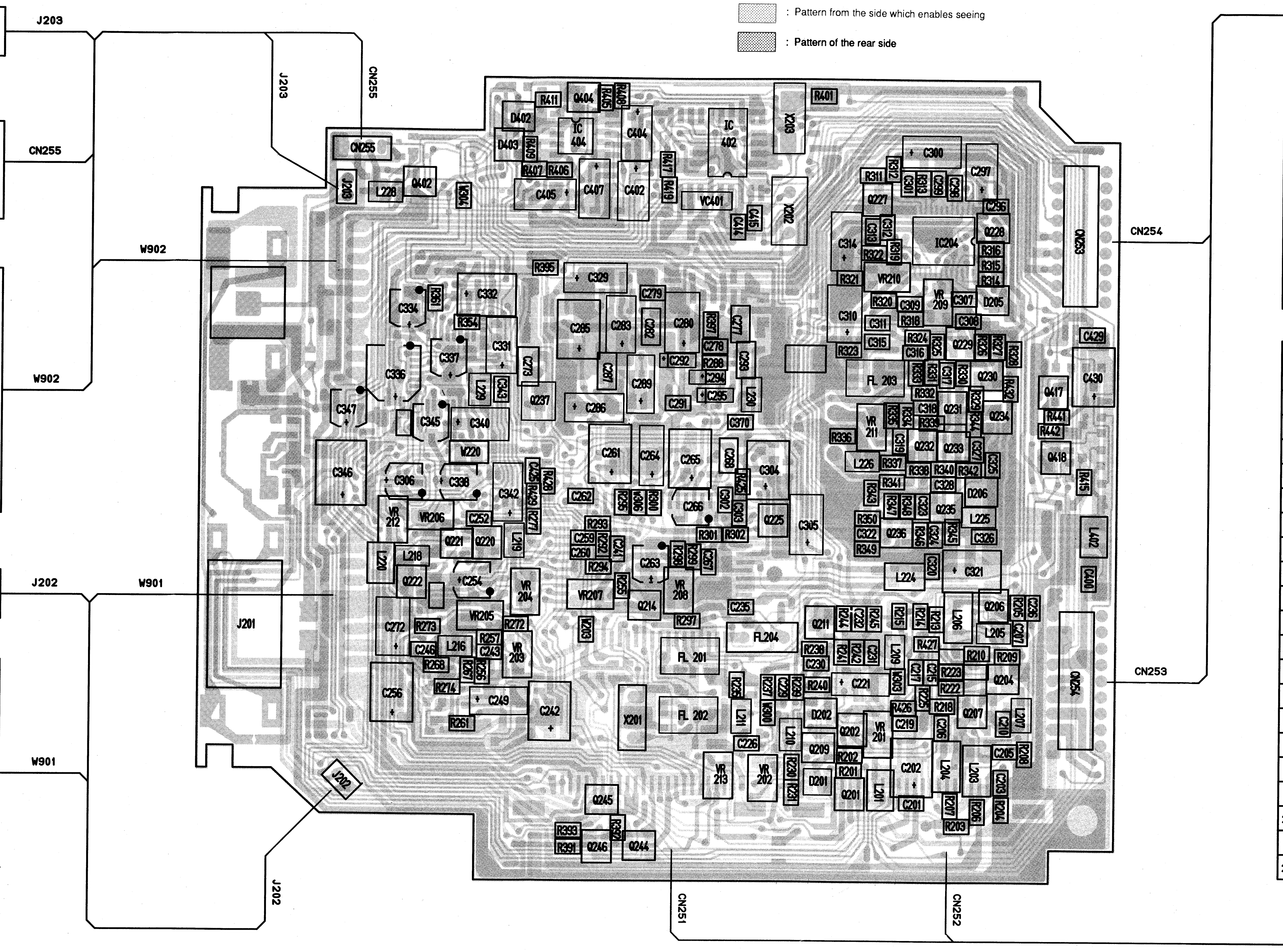
1	20V	1	TO DC/DC CONVERTER
2	15V	2	
3	-10V	3	
4	CAM 5V	4	
5	CAM UNREG	5	
6	N.C	6	
7	CAM GND	7	
8	CAM GND	8	
9	N.C	9	
10	AUDIO 5V	10	

J202

1	VIDEO IN	1	IN
2	VIDEO OUT	2	

W901

1	VIDEO 5V	1	TO DC/DC CONVERTER
2	REG 5V	2	
3	N.C	3	
4	REG GND	4	
5	REG GND	5	
6	VTR DD ON	6	
7	MT UNREG	7	
8	CAM DD ON	8	
9	MT GND	9	
10	MT GND	10	



▨ : Pattern from the side which enables seeing

▩ : Pattern of the rear side

CN254

1	DDS W	1	TO CAMERA (CN304)
2	DDS B	2	
3	OSD CS	3	
4	CG STB	4	
5	CAM 5V	5	
6	20V	6	
7	15V	7	
8	-10V	8	
9	CAM GND	9	

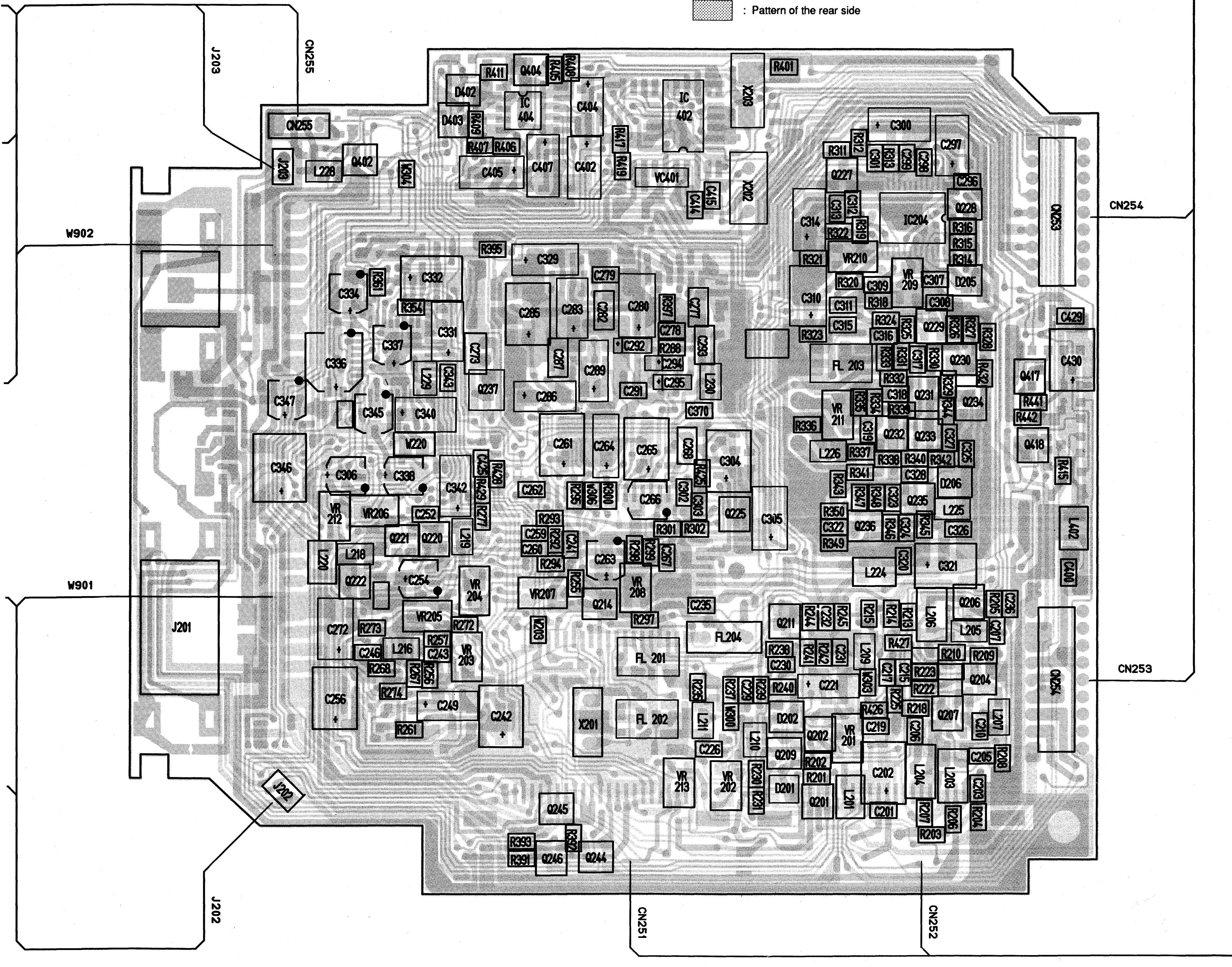
CN252

1	VA PB	1	TO MAIN (W502)
2	RF SWP	2	
3	EVR 5V	3	
4	SYNC DET	4	
5	TALLY	5	
6	DATA SCN	6	
7	CAM UNREG	7	
8	COSMO CS	8	
9	COSMO SI	9	
10	COSMO SO	10	
11	COSMO SCK	11	
12	N.C	12	
13	N.C	13	
14	N.C	14	
15	N.C	15	
16	REC Y	16	
17	DOC P	17	
18	REC C	18	
19	RP 5V	19	
20	PB YC OUT	20	
21	RP GND	21	
22	RP GND	22	

)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side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CN252
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IC 404
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X201
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VR 201
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VR 209
VR210
VR 211
VR 212
VR 213
D201
D202
D205
D206
D402
D403
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L204
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Q231
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Q233
Q234
Q235
Q236
Q237
Q244
Q245
Q246
Q402
Q404
Q417
Q418

CN254

1	DDS W	1
2	DDS B	2
3	OSD CS	3
4	CG STB	4
5	CAM 5V	5
6	20V	6
7	15V	7
8	-10V	8
9	CAM GND	9

TO CAMERA (CN304)

CN253

1	CAM UNREG	1
2	CAM UNREG	2
3	SS GND	3
4	SS 5V	4
5	DDS SO	5
6	DDS SCK	6
7	DDS SI	7
8	COSMO CS	8
9	EVER 5V.	9

CN252

1	VA PB	1
2	RF SWP	2
3	EVR 5V	3
4	SYNC DET	4
5	TALLY	5
6	DATA SCN	6
7	CAM UNREG	7
8	COSMO CS	8
9	COSMO SI	9
10	COSMO SO	10
11	COSMO SCK	11
12	N.C	12
13	N.C	13
14	N.C	14
15	N.C	15
16	REC Y	16
17	DOC P	17
18	REC C	18
19	RP 5V	19
20	PB YC OUT	20
21	RP GND	21
22	RP GND	22

TO MAIN (W502)

CN251

1	AUDIO 5V	1
2	AUDIO OUT	2
3	AUDIO OUT	3
4	AUDIO IN	4
5	AUDIO IN	5
6	AUDIO GND	6
7	MT GND	7
8	MT GND	8
9	CAM DD ON	9
10	MT UNREG	10
11	MT UNREG	11
12	VYR DD ON	12
13	SS 5V	13
14	VP SAVE	14
15	SS GND	15
16	STILL ADJ	16
17	JOG	17
18	COMP SYNC	18
19	VIDEO MUTE	19
20	JOG VD	20
21	VIDEO CS	21
22	SP/LP	22

CN254

CN253

CN252

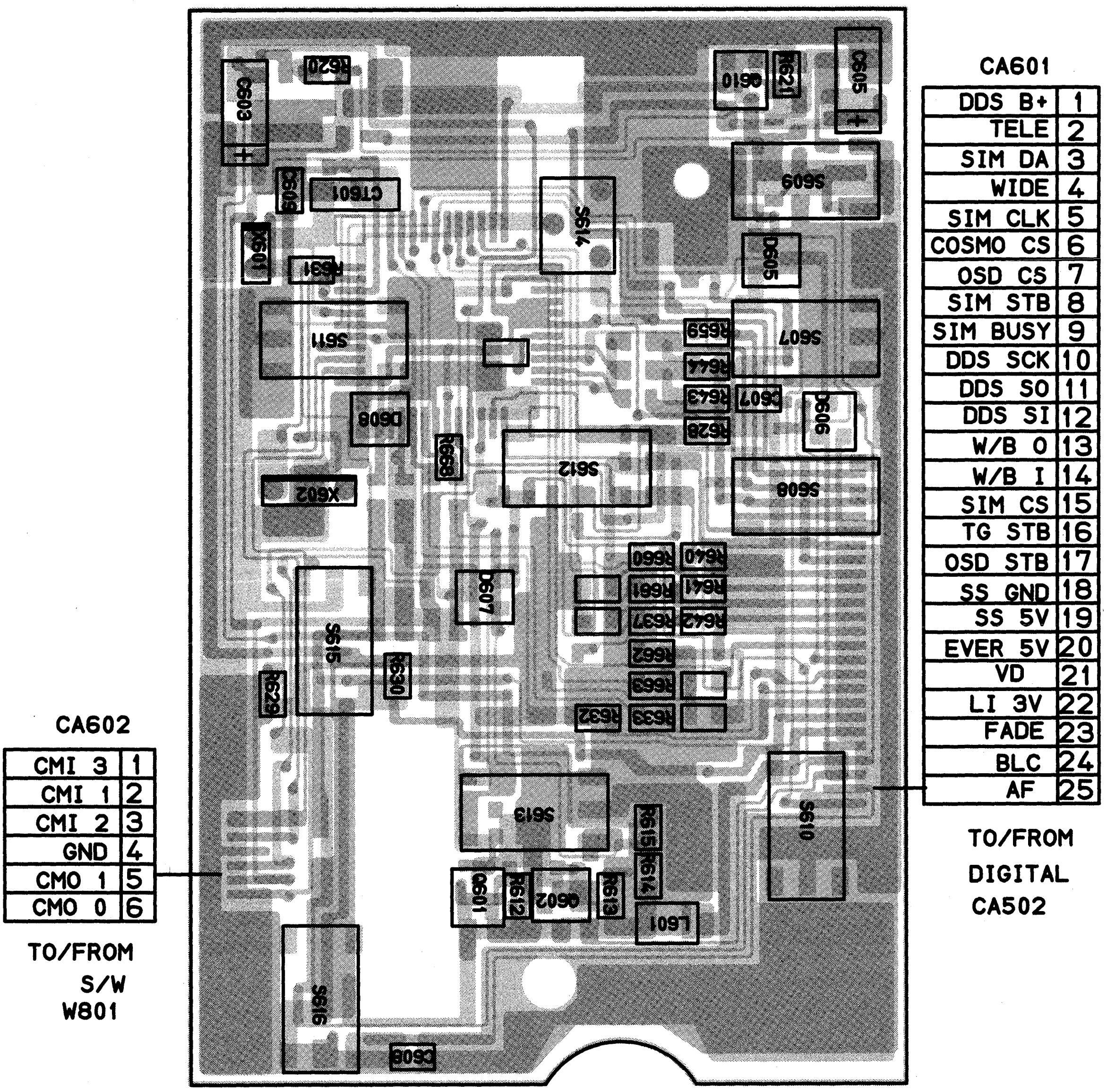
CN251

10-2. CAMERA SECTION

10-2-1. CAMERA Function (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side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CT601
C609
S614
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D601
R631
D605
S611
R659
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R643
D607
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D608
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R642
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S615
R630
R662
R629
R663
R632
R633
S613
S610
R615
R614
Q601
R612
Q602
R613
L601
S616
C608

CA601

DDS B+	1
TELE	2
SIM DA	3
WIDE	4
SIM CLK	5
COSMO CS	6
OSD CS	7
SIM STB	8
SIM BUSY	9
DDS SCK	10
DDS SO	11
DDS SI	12
W/B O	13
W/B I	14
SIM CS	15
TG STB	16
OSD STB	17
SS GND	18
SS 5V	19
EVER 5V	20
VD	21
LI 3V	22
FADE	23
BLC	24
AF	25

TO/FROM
DIGITAL
CA502

CA602

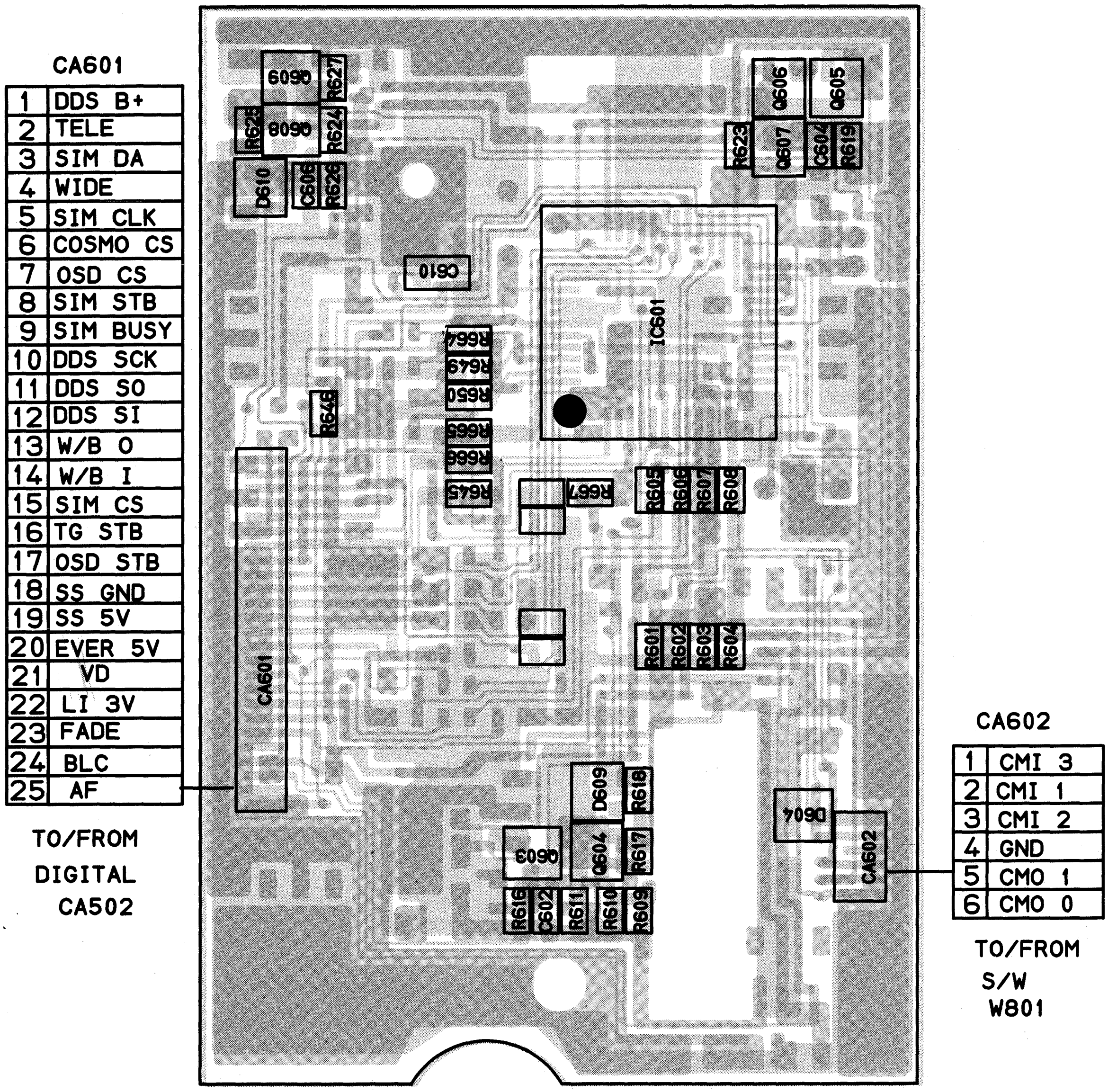
CMI 3	1
CMI 1	2
CMI 2	3
GND	4
CMO 1	5
CMO 0	6

TO/FROM
S/W
W801

10-2-1. CAMERA Function (Bottom Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side


Q609
R627
R625
Q608
R624
D610
C606
R626
C610
R664
R649
R650
R646
R665
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R645
R667
IC601
R605
R606
R607
R608
R601
R602
R603
R604
CA601
D609
R618
Q603
Q604
R617
R616
C602
R611
R610
R609
D604
CA602
Q606
Q605
R623
Q607
C604
R619

CA601

1	DDS B+
2	TELE
3	SIM DA
4	WIDE
5	SIM CLK
6	COSMO CS
7	OSD CS
8	SIM STB
9	SIM BUSY
10	DDS SCK
11	DDS SO
12	DDS SI
13	W/B O
14	W/B I
15	SIM CS
16	TG STB
17	OSD STB
18	SS GND
19	SS 5V
20	EVER 5V
21	VD
22	LI 3V
23	FADE
24	BLC
25	AF

TO/FROM
DIGITAL
CA502

CA602

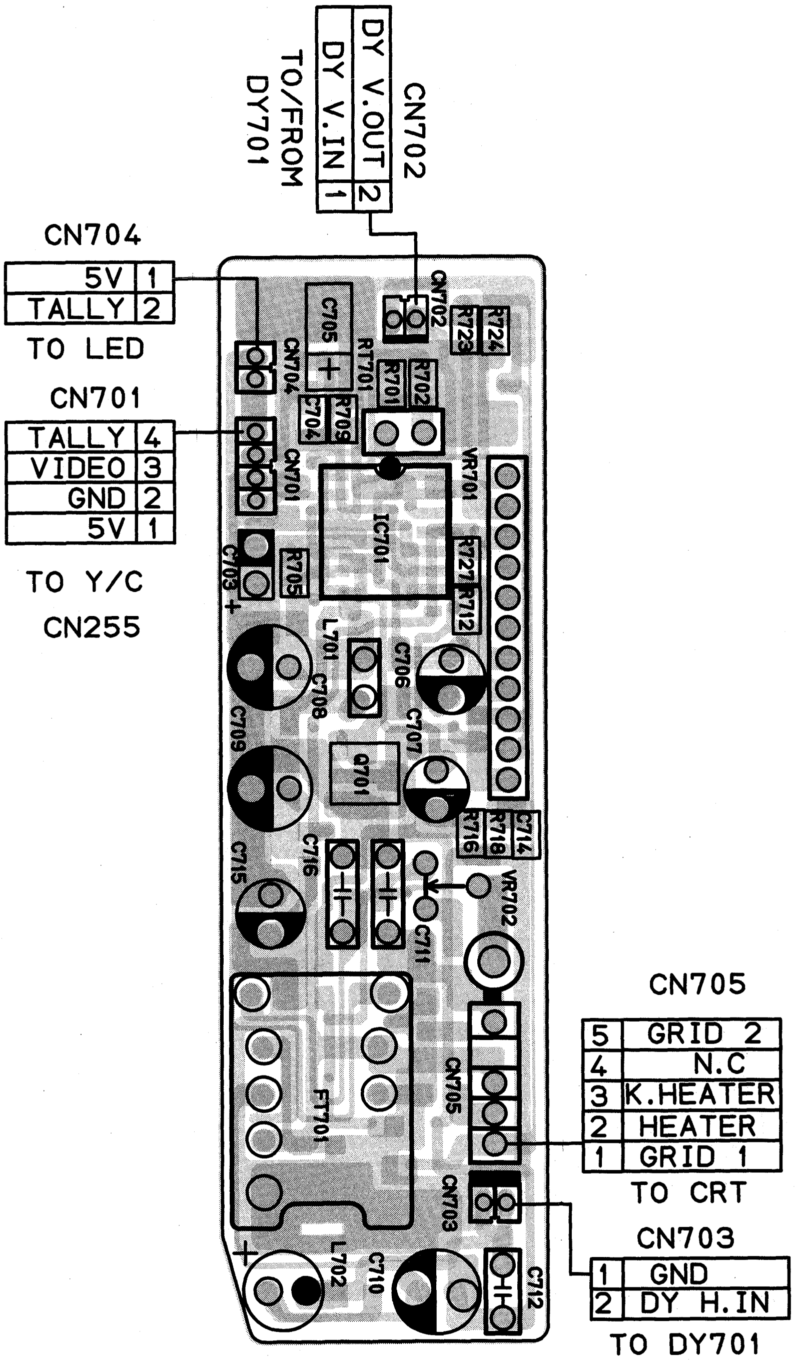
1	CMI 3
2	CMI 1
3	CMI 2
4	GND
5	CMO 1
6	CMO 0

TO/FROM
S/W
W801

10-2-2. E.V.F (Top Side)

▨ : Pattern from the side which enables seeing

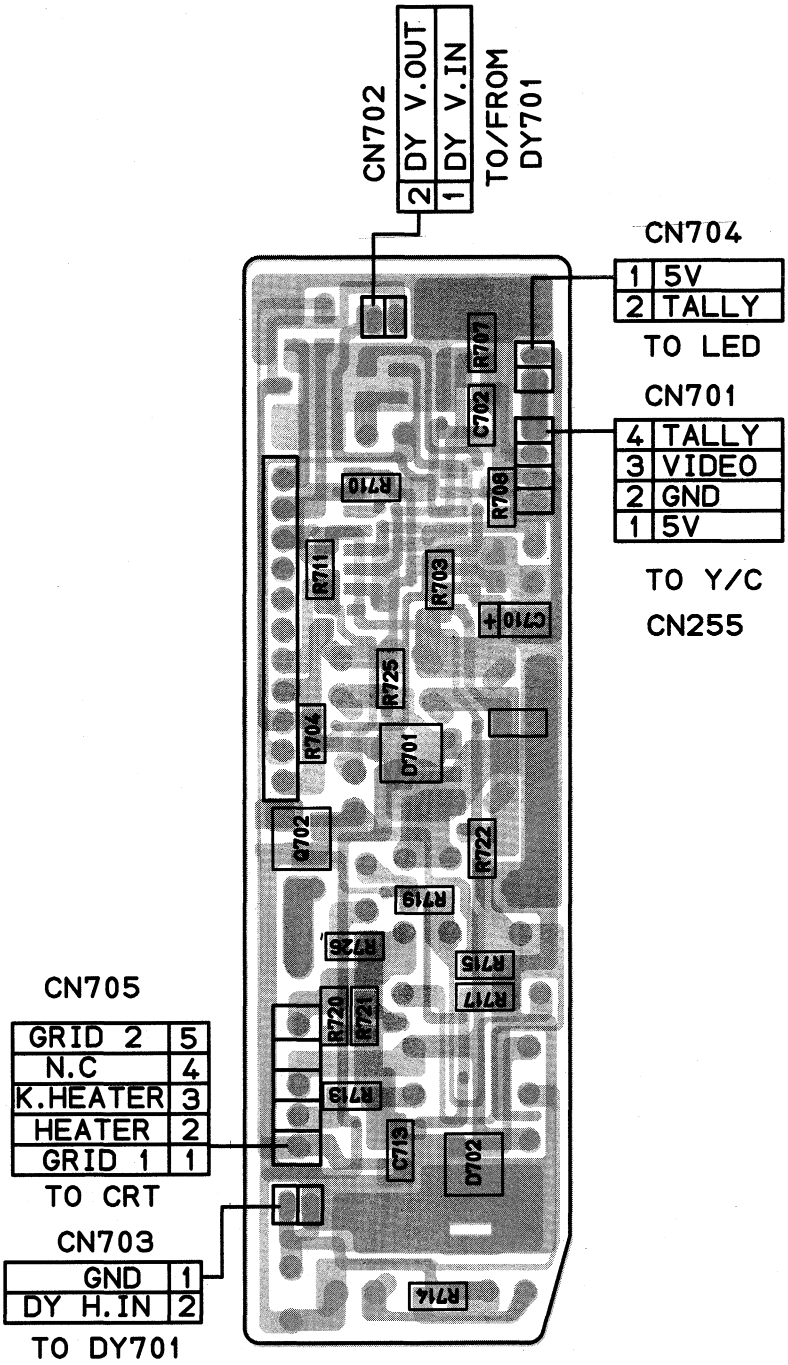
▨ : Pattern of the rear side


CN702
DY V.OUT 2
DY V.IN 1
TO/FROM DY701
CN704
5V 1
TALLY 2
TO LED
CN701
TALLY 4
VIDEO 3
GND 2
5V 1
TO Y/C CN255
CN705
5 GRID 2
4 N.C
3 K.HEATER
2 HEATER
1 GRID 1
TO CRT
CN703
1 GND
2 DY H.IN
TO DY701
CN702
R724
R723
C705
RT701
R701
R702
CN704
C704
R703
VR701
CN701
IC701
R727
R712
C703
R705
L701
C706
C708
C707
C709
Q701
R716
R718
C714
C715
C716
C711
VR702
FT701
CN705
CN703
L702
C710
C712

10-2-2. E.V.F (Bottom Side)

▨ : Pattern from the side which enables seeing

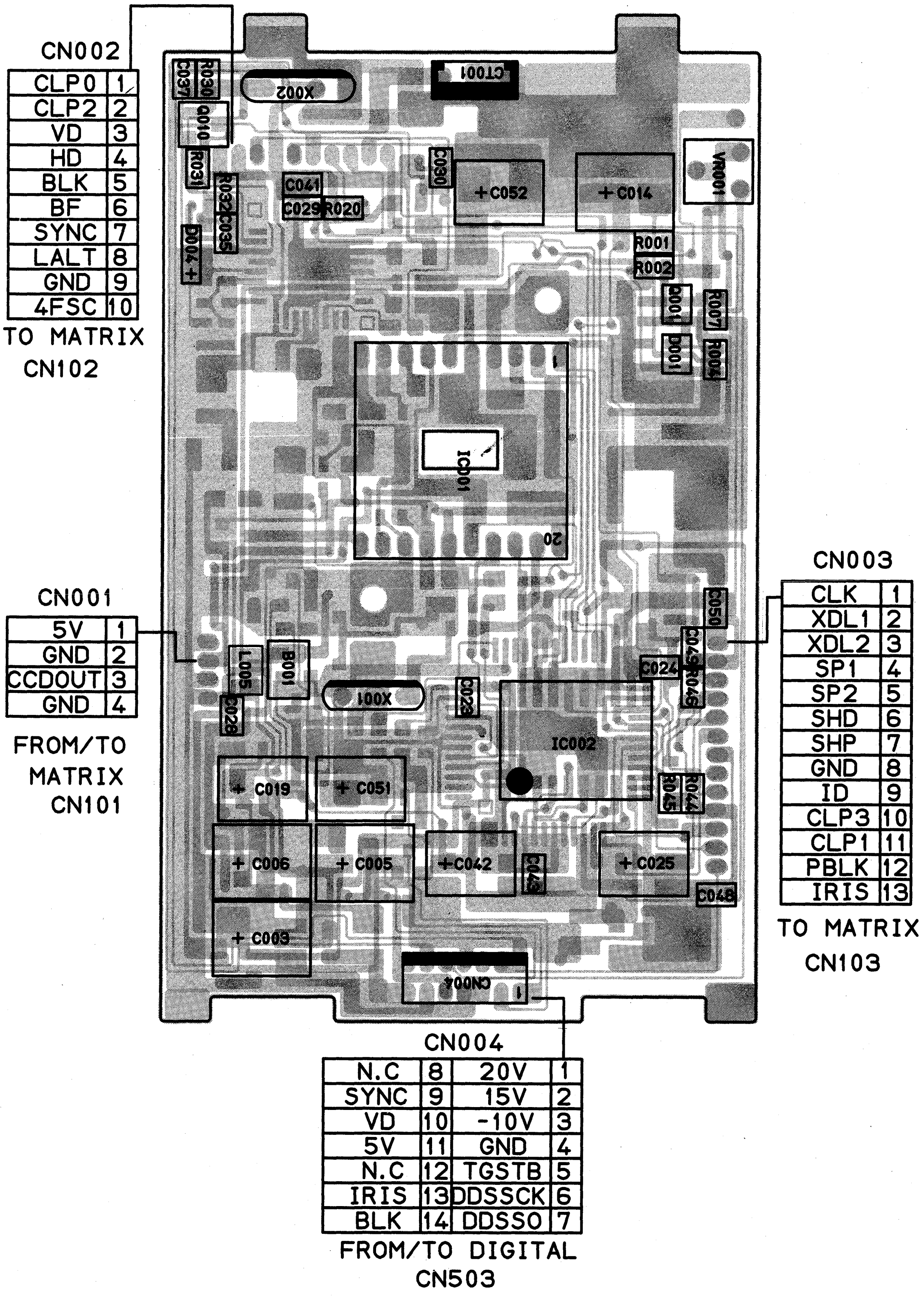
▨ : Pattern of the rear side


CN702
2 DY V.OUT
1 DY V.IN
TO/FROM DY701
CN704
1 5V
2 TALLY
TO LED
CN701
4 TALLY
3 VIDEO
2 GND
1 5V
TO Y/C CN255
R707
C702
R708
R710
R711
R703
C710
+
R725
R704
D701
Q702
R722
R719
R726
R715
R717
R720
R721
R713
C713
D702
R714
CN705
GRID 2 5
N.C 4
K.HEATER 3
HEATER 2
GRID 1 1
TO CRT
CN703
GND 1
DY H.IN 2
TO DY701

10-2-3. Drive (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side


CT001
X002
R030
C037
Q010
R031
R032
C035
D004
C041
C029
R020
C030
C052
C014
VR001
R001
R002
D001
R007
D001
R004
1
IC001
20
C050
C049
R046
C024
L005
B001
X001
C023
IC002
C028
R045
R044
C019
C051
C006
C005
C042
C043
C025
C048
C003
CN004
1

CN002

CLP0	1
CLP2	2
VD	3
HD	4
BLK	5
BF	6
SYNC	7
LALT	8
GND	9
4FSC	10

TO MATRIX
CN102

CN001

5V	1
GND	2
CCDOUT	3
GND	4

FROM/TO
MATRIX
CN101

CN003

CLK	1
XDL1	2
XDL2	3
SP1	4
SP2	5
SHD	6
SHP	7
GND	8
ID	9
CLP3	10
CLP1	11
PBLK	12
IRIS	13

TO MATRIX
CN103

CN004

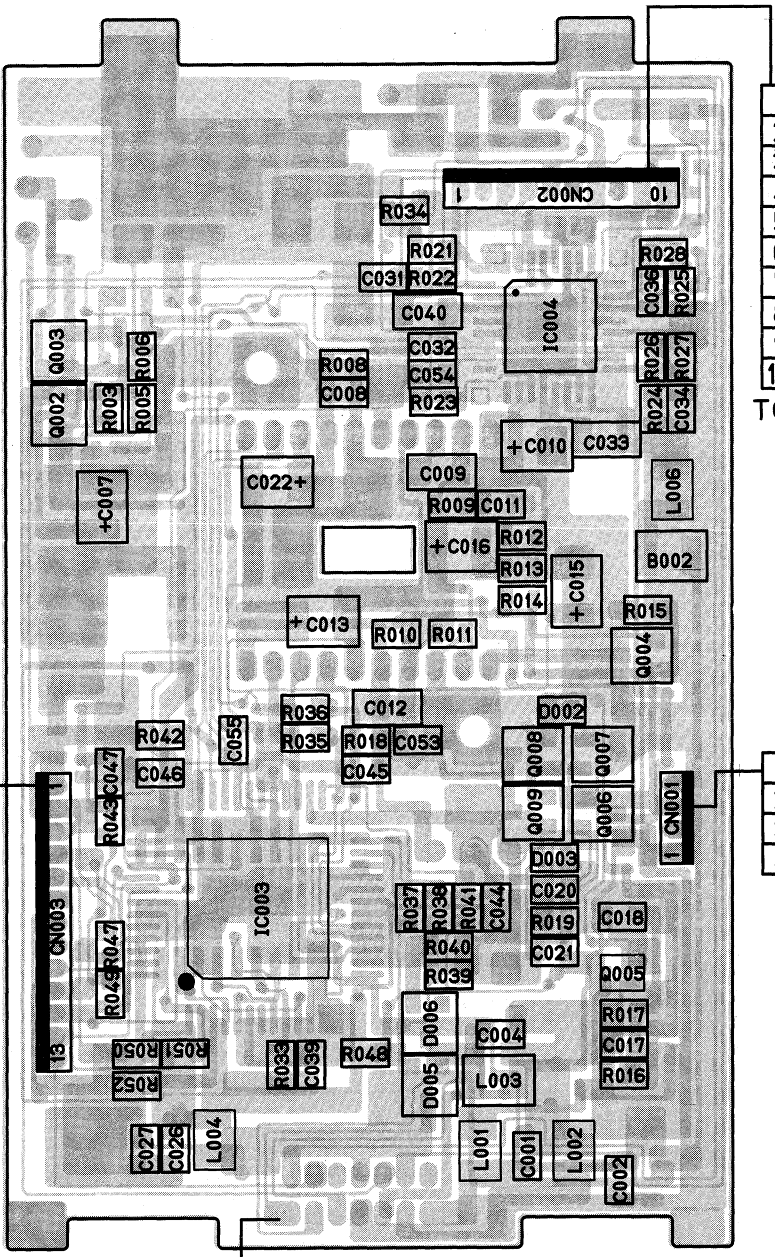
N.C	8	20V	1
SYNC	9	15V	2
VD	10	-10V	3
5V	11	GND	4
N.C	12	TGSTB	5
IRIS	13	DDSSCK	6
BLK	14	DDSSO	7

FROM/TO DIGITAL
CN503

10-2-3. Drive (Bottom side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side


CN002
1
10
R034
R021
C031
R022
C040
R028
C036
R025
IC004
Q003
Q002
R003
R005
R006
R008
C008
C032
C054
R023
R026
R027
R024
C034
+C010
C033
+C007
C022+
C009
R009
C011
L006
+C016
R012
R013
R014
+C015
B002
+C013
R010
R011
R015
Q004
R036
C012
D002
R035
R018
C053
C045
R042
C046
C055
C047
R043
CN003
1
13
R047
R049
IC003
Q008
Q007
Q009
Q006
CN001
1
D003
C020
R019
C021
R037
R038
R041
C044
R040
R039
C018
Q005
R017
C017
R016
D006
C004
D005
L003
R033
C039
R048
R050
R051
R052
C027
C026
L004
L001
C001
L002
C002

CN002

1	CLP0
2	CLP2
3	VD
4	HD
5	BLK
6	BF
7	SYNC
8	LALT
9	GND
10	4FSC

TO MATRIX
CN102

CN003

1	CLK
2	XDL1
3	XDL2
4	SP1
5	SP2
6	SHD
7	SHP
8	GND
9	ID
10	CLP3
11	CLP1
12	PBLK
13	IRIS

TO MATRIX
CN103

CN001

1	5V
2	GND
3	CCDOUT
4	GND

FROM/TO
MATRIX
CN101

CN004

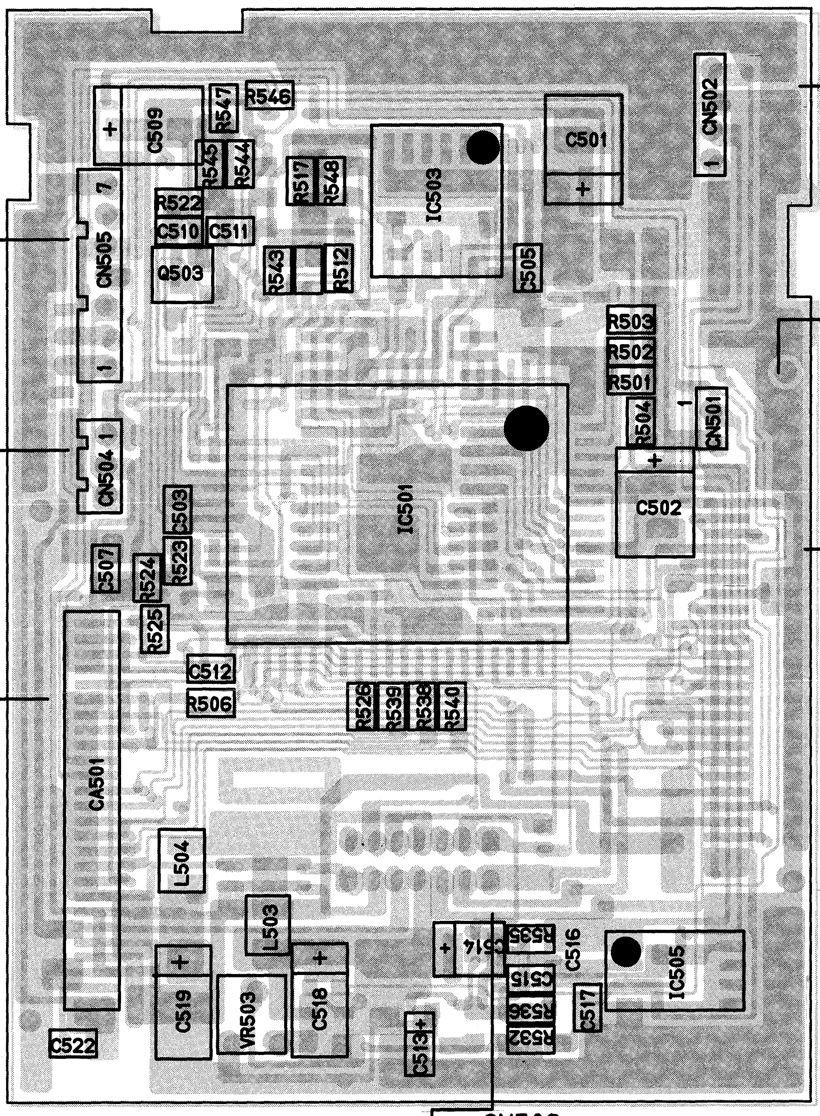
1	20V	8	N.C
2	15V	9	SYNC
3	-10V	10	VD
4	GND	11	5V
5	TGSTB	12	N.C
6	DDSSCK	13	IRIS
7	DDSSO	14	BLK

FROM/TO DIGITAL
CN503

10-2-4. Digital (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side



C509
R547
R546
R545
R544
R517
R548
IC503
C501
CN502
R522
C510
C511
Q503
R543
R512
C505
CN505
R503
R502
R501
R504
CN501
C502
IC501
CN504
C503
C507
R524
R523
R525
C512
R506
R526
R539
R538
R540
CA501
L504
L503
C519
VR503
C518
C514
R535
C516
C515
R536
R532
C517
IC505
C513
C522

CN 505

UNREG B+	1
AFCONT	2
5V	3
TELE	4
WIDE	5
N.C	6
UNREG GND	7

TO LENS

CN504

TELE	1
5V	2
WIDE	3

TO ZOOM S/W

CA501

W/B I	1
W/B O	2
ADY	3
FADE	4
TB	5
TG	6
TR	7
TY	8
CBLK	9
VOB	10
VOW	11
OSD STB	12
DDS SI	13
DDS SCK	14
DDS SO	15
OSD CS	16
COSMO CS	17
EVER 5V	18
20V	19
15V	20
-10V	21
N.C	22
SS5V	23
SS GND	24
UNREG B+	25
UNREG GND	26

TO/FROM PROCESS
CN306

CN502

DRIVE+	1
CONT+	2
DRIVE-	3
CONT-	4

TO LENS
MOTOR

CN501

LI 3V	1
GND	2

FROM
LI-BATTERY

CA502

DDS B+	1
TELE	2
SIM DA	3
WIDE	4
SIM CLK	5
COSMO CS	6
OSD CS	7
SIM STB	8
SIM BUSY	9
DDS SCK	10
DDS SO	11
DDS SI	12
W/B O	13
W/B I	14
SIM CS	15
TG STB	16
OSD STB	17
SS GND	18
SS 5V	19
EVER 5V	20
VD	21
LI 3V	22
FADE	23
BLC	24
AF	25

TO/FROM FUNCTION
CA601

CN503

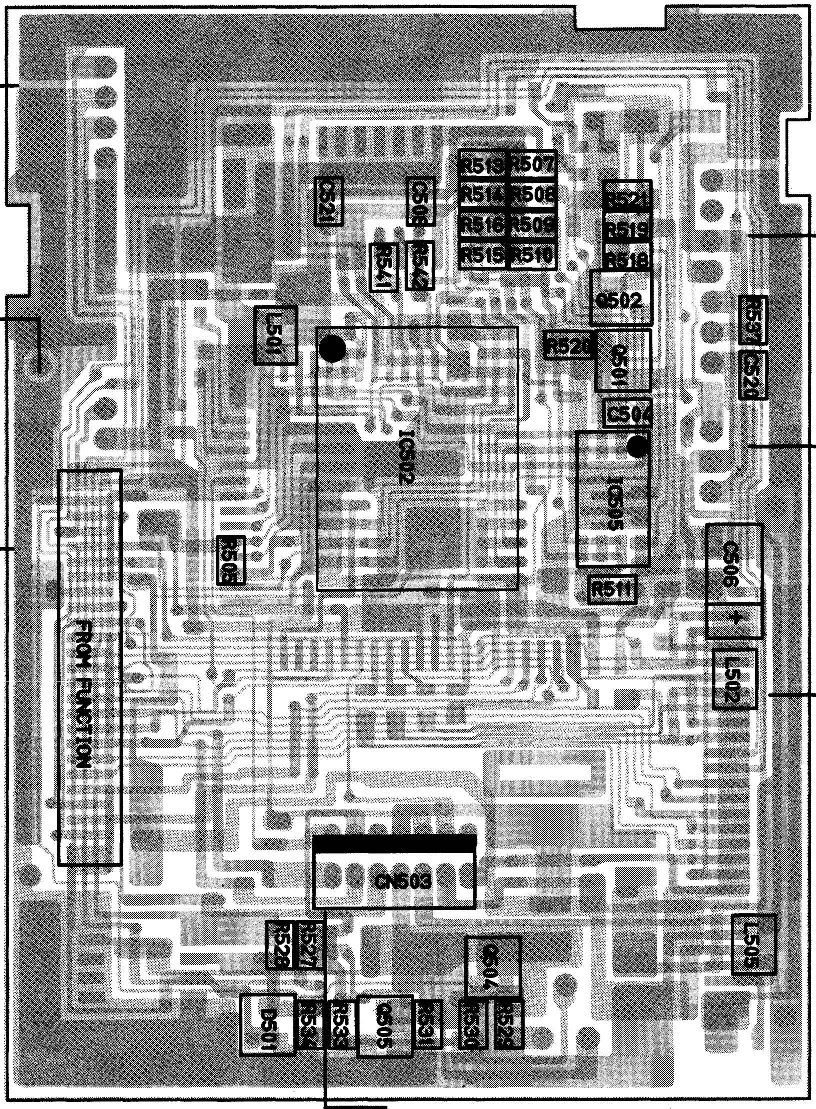
N.C	8	20V	1
SYNC	9	15V	2
VD	10	-10V	3
5V	11	GND	4
N.C	12	TG STB	5
IRIS	13	DDS SCK	6
BLK	14	DDS SO	7

TO/FROM DRIVE
CN004

10-2-4. Digital (Bottom Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side


R513
R507
R514
R508
R516
R509
R515
R510
C521
C508
R541
R542
R521
R519
R518
Q502
L501
R520
Q501
R537
C520
C504
IC502
IC505
R505
R511
C506
+
L502
FROM FUNCTION
CN503
R528
R527
L505
Q504
D501
R534
R533
Q505
R531
R530
R529

CN502

1	DRIVE+
2	CONT+
3	DRIVE-
4	CONT-

TO LENS
MOTOR

CN501

1	LI 3V
2	GND

FROM
LI-BATTERY

CA502

1	DDS B+
2	TELE
3	SIM DA
4	WIDE
5	SIM CLK
6	COSMO CS
7	OSD CS
8	SIM STB
9	SIM BUSY
10	DDS SCK
11	DDS SO
12	DDS SI
13	W/B O
14	W/B I
15	SIM CS
16	TG STB
17	OSD STB
18	SS GND
19	SS 5V
20	EVER 5V
21	VD
22	LI 3V
23	FADE
24	BLC
25	AF

TO/FROM FUNCTION
CA601

CN503

1	20V	8	N.C
2	15V	9	SYNC
3	-10V	10	VD
4	GND	11	5V
5	TG STB	12	N.C
6	DDS SCK	13	IRIS
7	DDS SO	14	BLK

TO/FROM DRIVE
CN004

CN 505

1	UNREG B+
2	AFCONT
3	5V
4	TELE
5	WIDE
6	N.C
7	UNREG GND

TO LENS

CN504

1	TELE
2	5V
3	WIDE

TO ZOOM S/W

CA501

1	W/B I
2	W/B O
3	ADY
4	FADE
5	TB
6	TG
7	TR
8	TY
9	CBLK
10	VOB
11	VOW
12	OSD STB
13	DDS SI
14	DDS SCK
15	DDS SO
16	OSD CS
17	COSMO CS
18	EVER 5V
19	20V
20	15V
21	-10V
22	N.C
23	SS5V
24	SS GND
25	UNREG B+
26	UNREG GND

TO/FROM PROCESS
CN306

10-2-5. Matrix (Top Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side

CN102

CLP0	1
CLP2	2
VD	3
HD	4
BLK	5
BF	6
SYNC	7
LALT	8
GND	9
4FSC	10

W101

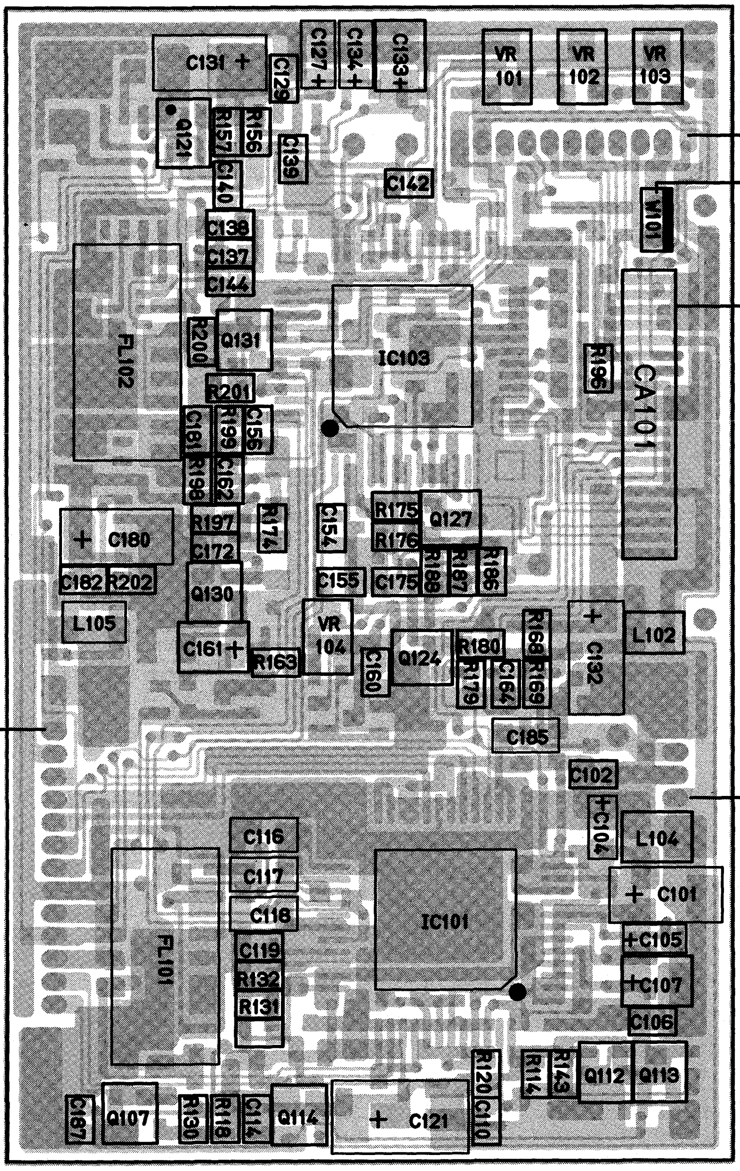
4FSC	1
GND	2

CA101

LALT	1
SYNC	2
BF	3
BLK	4
VD	5
CLP2	6
CLP0	7
CBLK	8
GND	9
GND	10
CSY	11
YL-YH	12
APGAIN	13
DC	14
5V	15
B	16
G	17
R	18
YH	19

CN101

5V	1
GND	2
CCDOUT	3
GND	4


C131 +
C129
C127+
C134+
C133+
VR 101
VR 102
VR 103
Q121
R157
R156
C139
C140
C142
W101
C138
C137
C144
FL102
R200
Q131
IC103
R196
CA101
R201
C181
R199
C156
R198
C162
R197
R174
C154
R175
Q127
R176
+ C180
C172
R188
R187
R186
C182
R202
Q130
C155
C175
L105
VR 104
R168
+ C132
L102
C161+
R163
C160
Q124
R180
R179
C164
R169
C185
C102
+C104
L104
C116
C117
C118
IC101
+ C101
+C105
C119
R132
+C107
R131
FL101
C106
R120
R114
R143
Q112
Q113
C187
Q107
R130
R118
C114
Q114
+ C121
C110

CN103

CLK	1
XDL1	2
XDL2	3
SP1	4
SP2	5
SHD	6
SHP	7
GND	8
ID	9
CLP3	10
CLP1	11
PBLK	12
IRIS	13

10-2-5. Matrix (Bottom Side)

▨ : Pattern from the side which enables seeing

▨ : Pattern of the rear side

CN102

1	CLP0
2	CLP2
3	VD
4	HD
5	BLK
6	BF
7	SYNC
8	LALT
9	GND
10	4FSC

W101

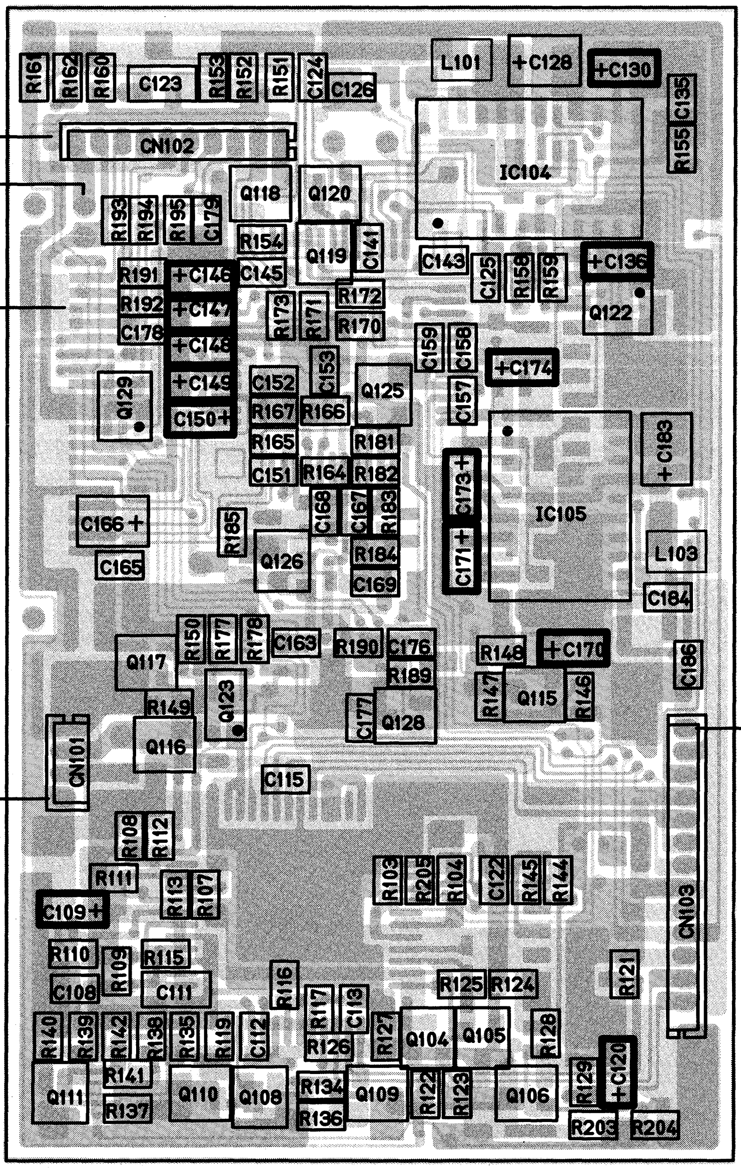
1	4FSC
2	GND

CA101

1	LALT
2	SYNC
3	BF
4	BLK
5	VD
6	CLP2
7	CLP0
8	CBLK
9	GND
10	GND
11	CSY
12	YL-YH
13	APGAIN
14	DC
15	5V
16	B
17	G
18	R
19	YH

CN101

1	5V
2	GND
3	CCDOUT
4	GND



R161
R162
R160
C123
R153
R152
R151
C124
C126
L101
+C128
+C130
C135
R155
CN102
IC104
Q118
Q120
R193
R194
R195
C179
R154
Q119
C141
C143
C125
R158
R159
+C136
Q122
R191
+C146
C145
R192
+C147
R173
R171
R172
R170
C178
+C148
C159
C158
+C174
Q129
+C149
C152
C153
Q125
C157
C150+
R167
R166
R165
R181
+C183
C151
R164
R182
C173+
IC105
C166+
R185
C168
C167
R183
C171+
L103
C165
Q126
R184
C169
C184
R150
R177
R178
C163
R190
C176
R148
+C170
C186
Q117
R189
R147
Q115
R146
R149
Q123
C177
Q128
CN101
Q116
C115
R108
R112
R111
R103
R205
R104
C122
R145
R144
CN103
C109+
R113
R107
R110
R109
R115
R121
C108
C111
R116
R125
R124
R117
C113
R140
R139
R142
R138
R135
R119
C112
R127
Q104
Q105
R128
R126
C120+
R141
R129
Q111
Q110
Q108
R134
Q109
R122
R123
Q106
R137
R136
R203
R204

CN103

1	CLK
2	XDL1
3	XDL2
4	SP1
5	SP2
6	SHD
7	SHP
8	GND
9	ID
10	CLP3
11	CLP1
12	PBLK
13	IRIS

11. SCHEMATIC DIAGRAMS

Page

11-1. VTR SECTION

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11-2. CAMERA SECTION

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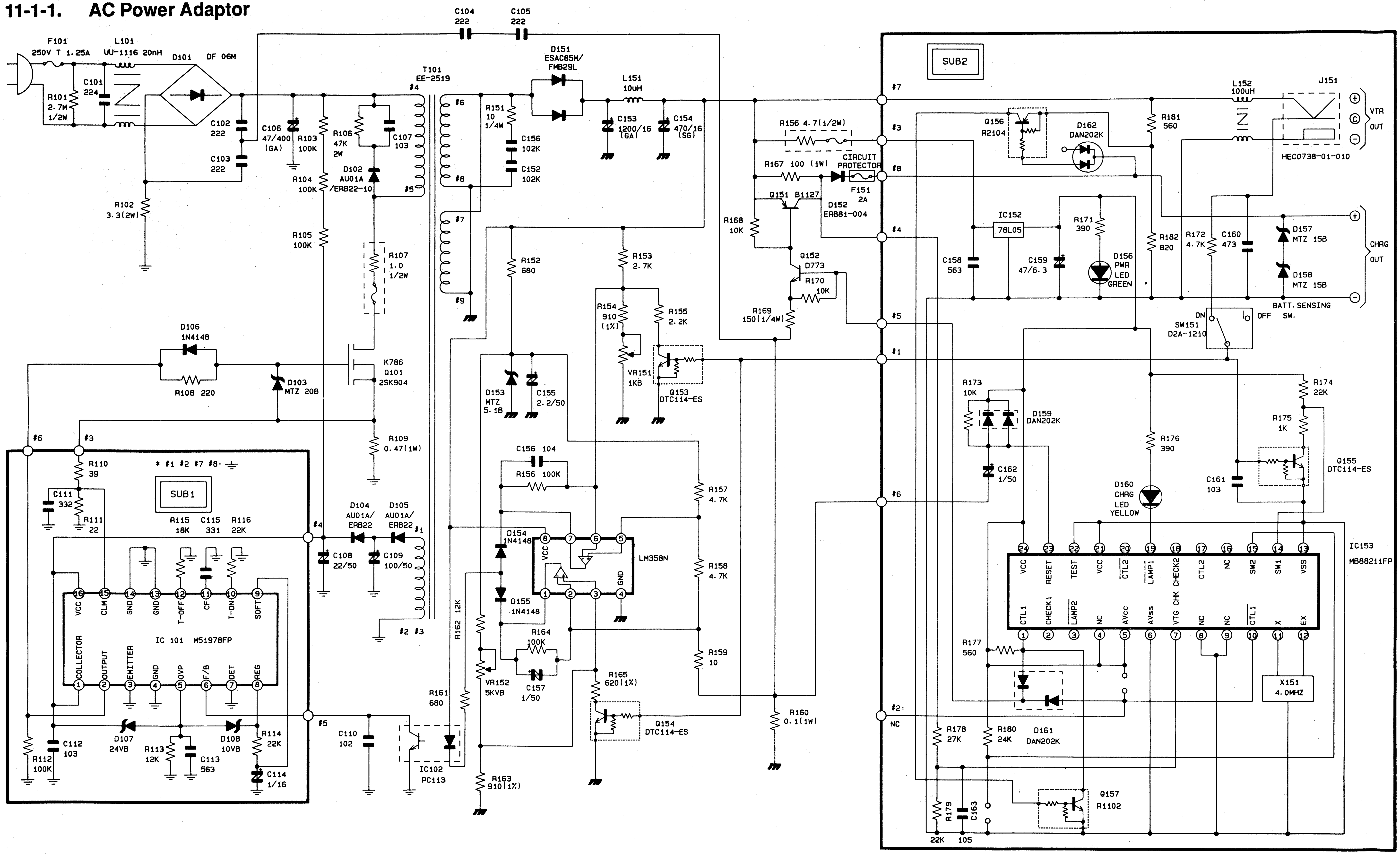
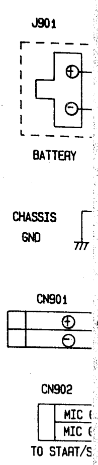
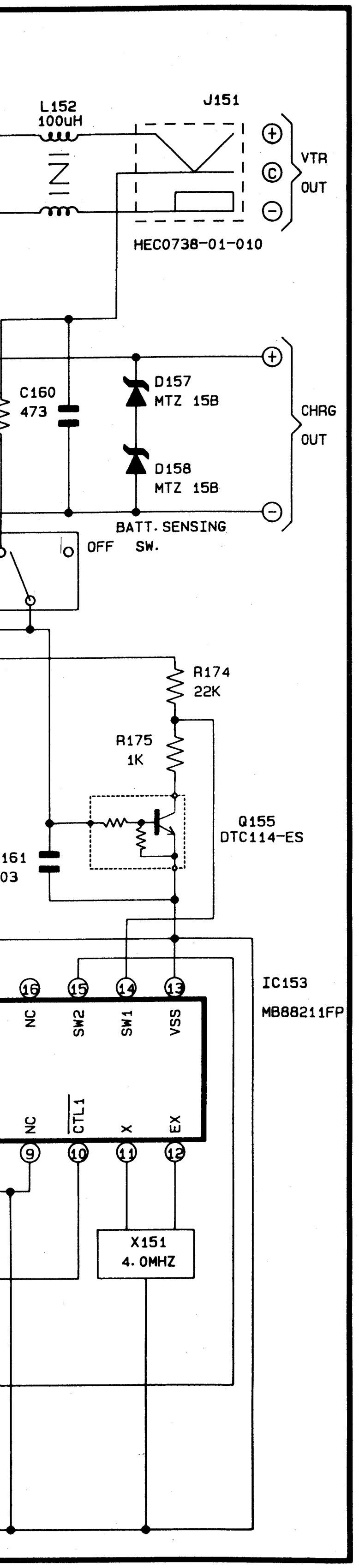
11-1. VTR SECTION

11-1-1. AC Power Adaptor

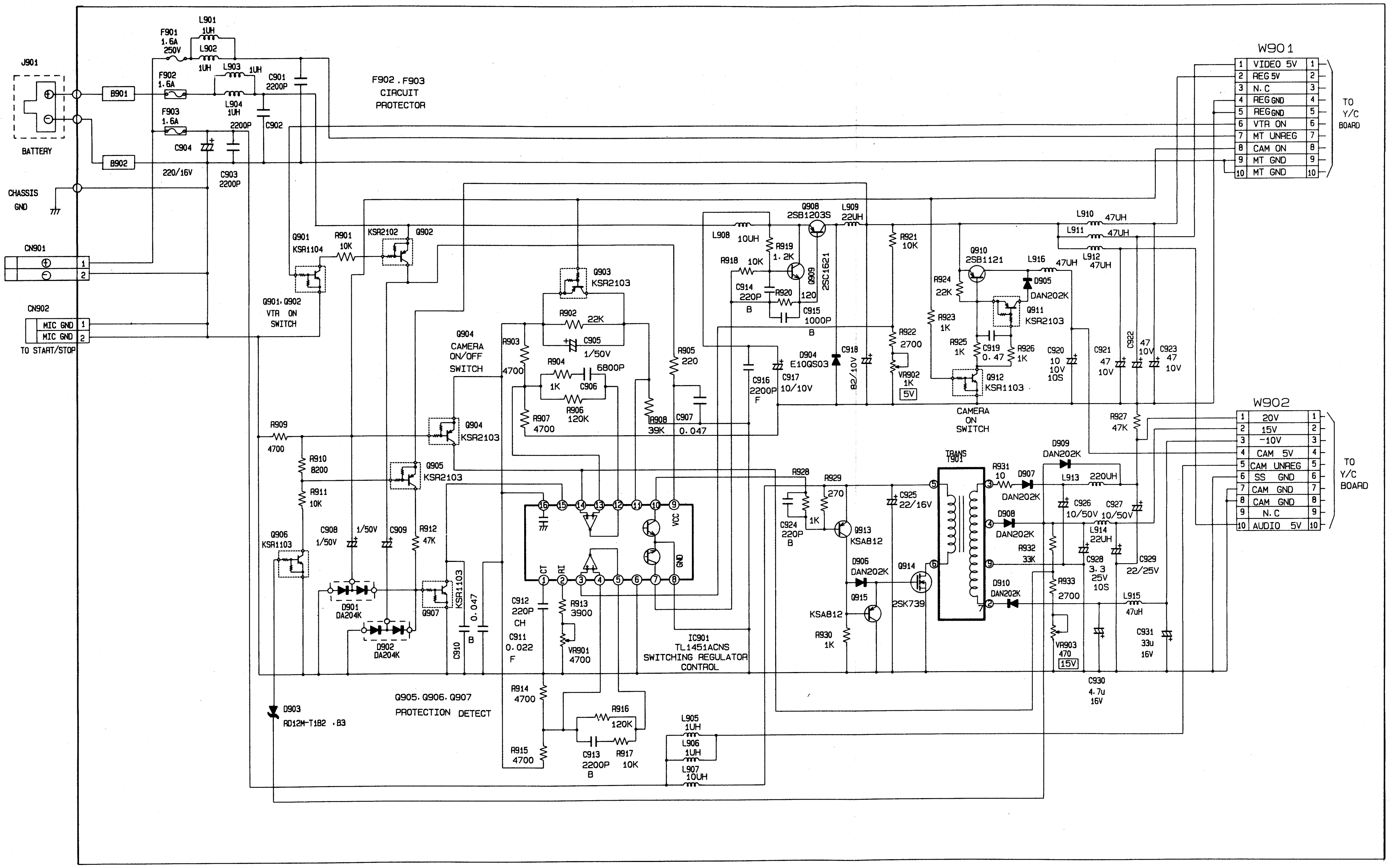

F101
250V T 1.25A
L101
UU-1116 20nH
D101 DF 06M
R101 2.7M 1/2W
C101 224
C102 222
C103 222
R102 3.3(2W)
C104 222
C105 222
T101 EE-2519
#4
C106 47/400 (GA)
R103 100K
R104 100K
R105 100K
R106 47K 2W
C107 103
D102 AU01A /ERB22-10
#5
#6
#8
#7
#9
D151 ESAC85M/ FMB29L
R151 10 1/4W
C156 102K
C152 102K
L151 10uH
C153 1200/16 (GA)
C154 470/16 (SG)
R107 1.0 1/2W
K786 Q101 2SK904
D106 1N4148
R108 220
D103 MTZ 20B
R109 0.47(1W)
R152 680
D153 MTZ 5.1B
C155 2.2/50
R153 2.7K
R154 910 (1%)
R155 2.2K
VR151 1KB
Q153 DTC114-ES
R156 4.7(1/2W)
R167 100 (1W)
CIRCUIT PROTECTOR
F151 2A
Q151 B1127
D152 ERB81-004
R168 10K
Q152 D773
R170 10K
R169 150(1/4W)
SUB2
#7
#3
#8
#4
#5
#1
#6
#2:
NC
Q156 R2104
D162 DAN202K
R181 560
L152 100uH
J151
VTR OUT
HEC0738-01-010
IC152 78L05
R171 390
C158 563
C159 47/6.3
D156 PWR LED GREEN
R182 820
R172 4.7K
C160 473
D157 MTZ 15B
D158 MTZ 15B
CHRG OUT
BATT. SENSING SW.
ON
OFF
SW151 D2A-1210
R173 10K
D159 DAN202K
C162 1/50
R174 22K
R175 1K
R176 390
Q155 DTC114-ES
C161 103
D160 CHRG LED YELLOW
IC153 MB88211FP
24 VCC
23 RESET
22 TEST
21 VCC
20 CTL2
19 LAMP1
18 CHK CHECK2
17 CTL2
16 NC
15 SW2
14 SW1
13 VSS
1 CTL1
2 CHECK1
3 LAMP2
4 NC
5 AVcc
6 AVss
7 VTG
8 NC
9 NC
10 CTL1
11 X
12 EX
R177 560
X151 4.0MHZ
R178 27K
R180 24K
D161 DAN202K
R179 22K
C163 105
Q157 R1102
#6
#3
R110 39
* #1 #2 #7 #8:
C111 332
R111 22
SUB1
R115 18K
C115 331
R116 22K
IC 101 M51978FP
16 VCC
15 CLM
14 GND
13 GND
12 T-OFF
11 CF
10 T-ON
9 SOFT
1 COLLECTOR
2 OUTPUT
3 EMITTER
4 GND
5 OVP
6 F/B
7 DET
8 REG
R112 100K
C112 103
D107 24VB
R113 12K
C113 563
D108 10VB
R114 22K
C114 1/16
#4
D104 AU01A/ ERB22
D105 AU01A/ ERB22
#1
C108 22/50
C109 100/50
#2 #3
#5
C110 102
IC102 PC113
R161 680
R162 12K
R163 910(1%)
VR152 5KVB
C156 104
R156 100K
D154 1N4148
D155 1N4148
LM358N
VCC
GND
R164 100K
C157 1/50
R165 620(1%)
Q154 DTC114-ES
R157 4.7K
R158 4.7K
R159 10
R160 0.1(1W)

11-1-


J901
BATTERY
CHASSIS GND
CN901
CN902
MIC
MIC
TO START/S


L152
100uH
J151
VTR
OUT
HEC0738-01-010
C160
473
D157
MTZ 15B
D158
MTZ 15B
CHRG
OUT
BATT. SENSING
OFF SW.
R174
22K
R175
1K
Q155
DTC114-ES
IC153
MB88211FP
NC
SW2
SW1
VSS
CTL1
X
EX
X151
4.0MHZ

11-1-2. DC/DC Converter


J901
BATTERY
CHASSIS GND
CN901
CN902
MIC GND
MIC GND
TO START/STOP
B901
B902
F901 1.6A 250V
F902 1.6A
F903 1.6A
L901 1UH
L902 1UH
L903 1UH
L904 1UH
C901 2200P
C902
C903 2200P
C904 220/16V
F902 . F903 CIRCUIT PROTECTOR
Q901 KSR1104
R901 10K
Q902 KSR2102
Q901. Q902 VTR ON SWITCH
Q903 KSR2103
R902 22K
C905 1/50V
R904 1K
C906 6800P
R906 120K
R903 4700
R907 4700
R905 220
R908 39K
C907 0.047
Q904 CAMERA ON/OFF SWITCH
Q904 KSR2103
Q905 KSR2103
R909 4700
R910 8200
R911 10K
Q906 KSR1103
C908 1/50V
C909 1/50V
R912 47K
D901 DA204K
D902 DA204K
Q907 KSR1103
C910 0.047 B
D903 RD12M-T1B2 .B3
Q905. Q906. Q907 PROTECTION DETECT
C912 220P CH
C911 0.022 F
R913 3900
VR901 4700
R914 4700
R915 4700
R916 120K
C913 2200P B
R917 10K
IC901 TL1451ACNS SWITCHING REGULATOR CONTROL
CT
RT
VCC
GND
L905 1UH
L906 1UH
L907 10UH
Q908 2SB1203S
L908 10UH
L909 22UH
R918 10K
R919 1.2K
Q909 2SC1621
C914 220P B
R920 120
C915 1000P B
C916 2200P F
C917 10/10V
D904 E10QS03
C918 82/10V
R921 10K
R922 2700
VR902 1K 5V
Q910 2SB1121
R924 22K
R923 1K
R925 1K
C919 0.47
R926 1K
L916 47UH
D905 DAN202K
Q911 KSR2103
Q912 KSR1103
CAMERA ON SWITCH
C920 10 10V 10S
L910 47UH
L911 47UH
L912 47UH
C921 47 10V
C922 47 10V
C923 47 10V
R927 47K
W901
VIDEO 5V
REG 5V
N.C
REG GND
REG GND
VTR ON
MT UNREG
CAM ON
MT GND
MT GND
TO Y/C BOARD
W902
20V
15V
-10V
CAM 5V
CAM UNREG
SS GND
CAM GND
CAM GND
N.C
AUDIO 5V
TO Y/C BOARD
R928
R929 270
1K
C924 220P B
C925 22/16V
Q913 KSA812
D906 DAN202K
Q914 2SK739
Q915 KSA812
R930 1K
TRANS T901
R931 10
D907
D909 DAN202K
L913 220UH
DAN202K
D908 DAN202K
C926 10/50V
C927 10/50V
L914 22UH
R932 33K
C928 3.3 25V 10S
C929 22/25V
R933 2700
D910 DAN202K
L915 47uH
VR903 470 15V
C930 4.7u 16V
C931 33u 16V

IC 901 (TL1451)		
PIN NO	PLAY BACK	RECORD
1	1.9V	1.9V
2	1.1V	1.1V
3	1.4V	1.4V
4	1.4V	1.4V
5	1.7V	1.7V
6	0.0V	0.0V
7	2.7V	2.7V
8	0.0V	0.0V
9	5.2V	5.2V
10	6.0V	6.0V
11	2.6V	2.6V
12	2.6V	2.6V
13	1.4V	1.4V
14	2.6V	2.6V
15	0.0V	0.0V
16	2.7V	2.7V

IMPORTANT SAFETY NOTICES
Components identified with the mark ⚠ have the special charateristics for safety when replacing any of these components. Use only the same type.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

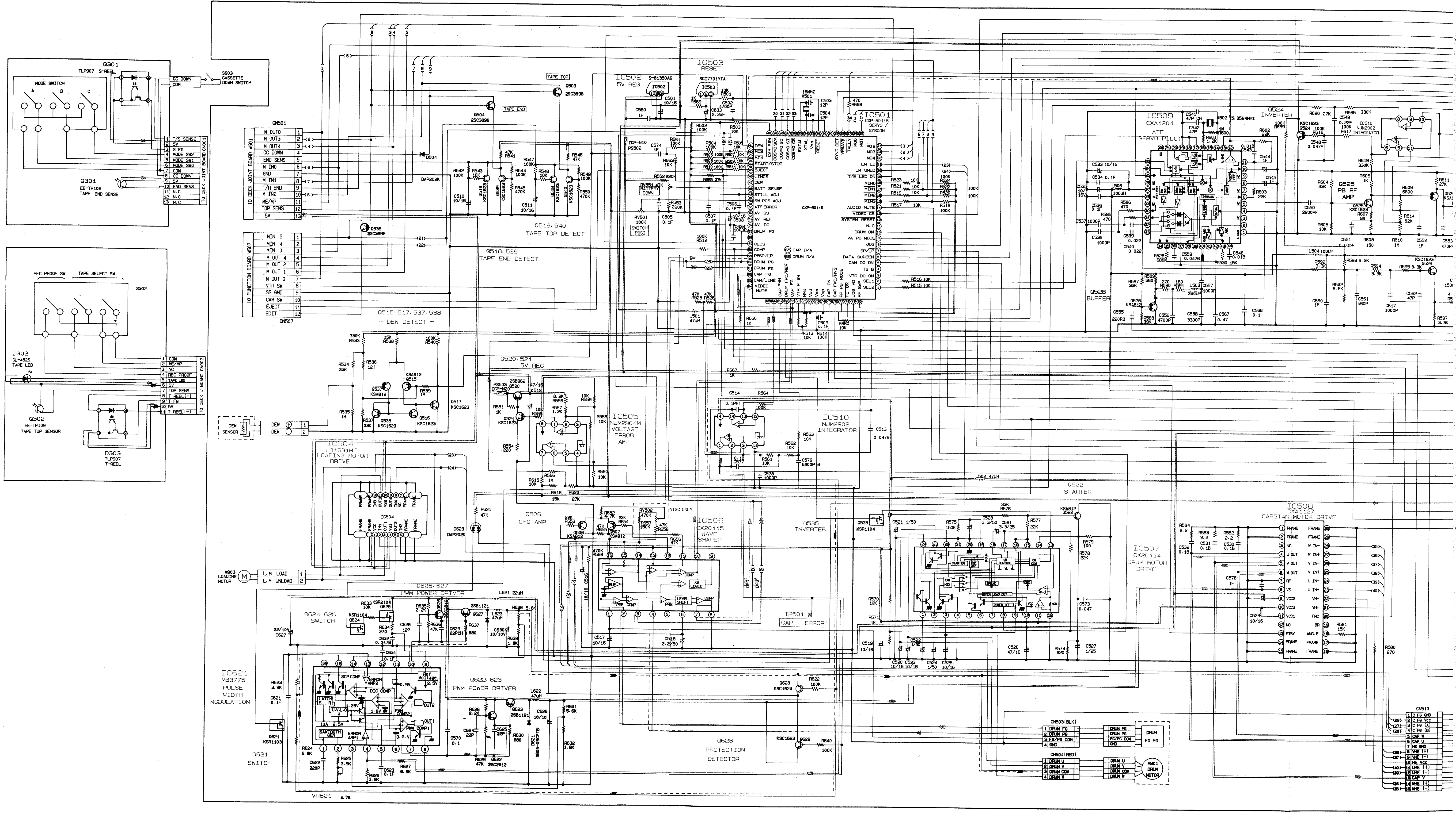
NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

11-1-3. System Control / Servo

RED ——— DRUM SPEED
- - - - - DRUM PHASE

BLUE ——— CAPSTAN SPEED/PHASE
- - - - - CAPSTAN PHASE

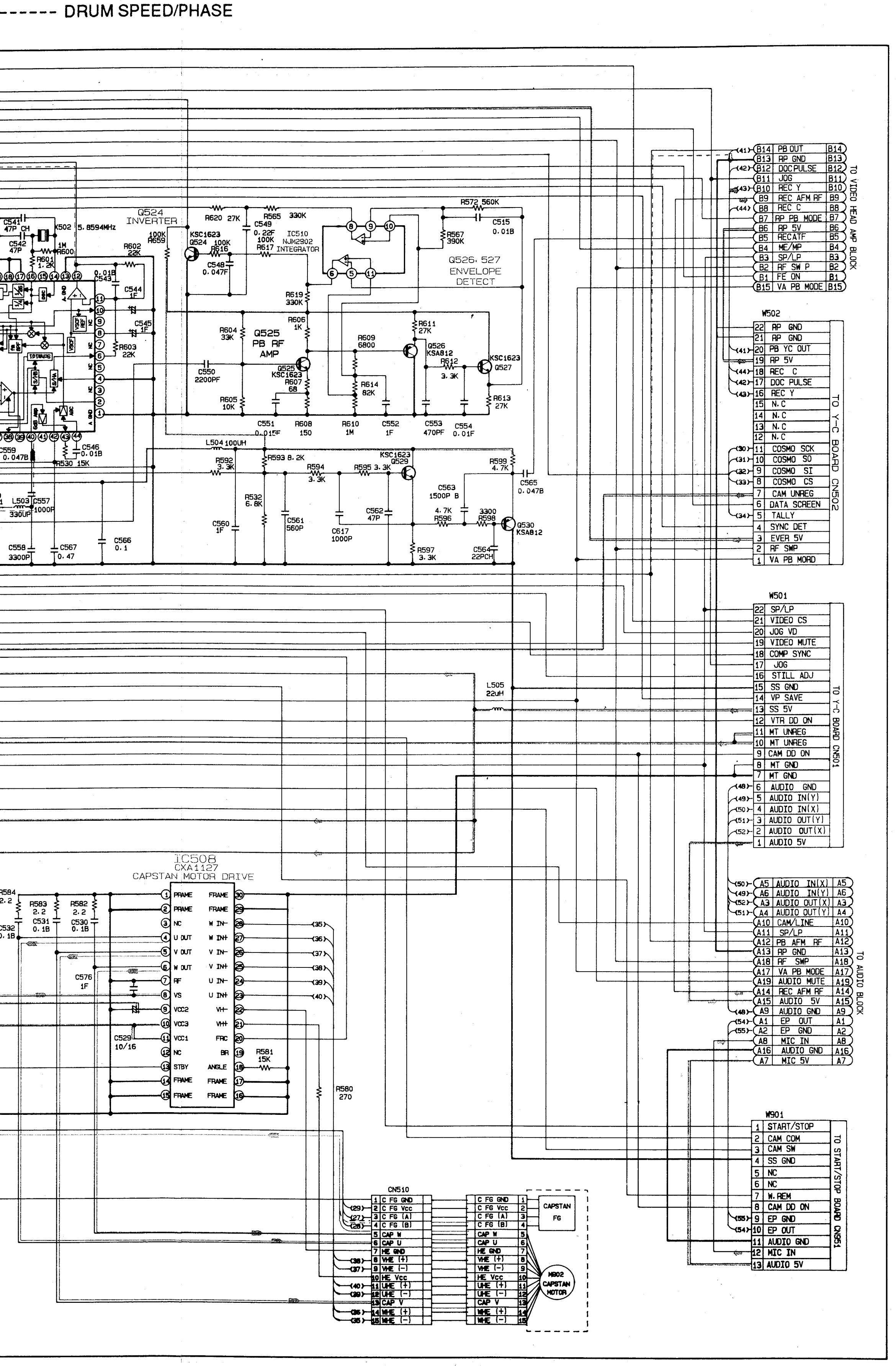
GREEN - - - - - DRUM SPEED/PHASE

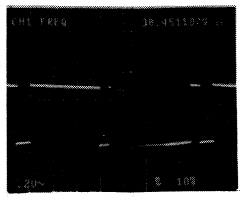

Q301 TLP907 S-REEL
MODE SWITCH
S903 CASSETTE DOWN SWITCH
Q301 EE-TP109 TAPE END SENSE
TO DECK JOINT BOARD CN001
REC PROOF SW
TAPE SELECT SW
S302
D302 GL-452S TAPE LED
Q302 EE-TP109 TAPE TOP SENSOR
D303 TLP907 T-REEL
TO DECK J-BOARD CN002
CN501
TO DECK JOINT BOARD W501
TO FUNCTION BOARD W507
CN507
DEW SENSOR
TAPE TOP
TAPE END
Q503 2SC3898
Q504 2SC3898
Q536 2SC3898
Q519, 540 TAPE TOP DETECT
Q518, 539 TAPE END DETECT
Q515~517, 537, 538 - DEW DETECT -
Q520, 521 5V REG
IC502 S-81350AG 5V REG
IC503 RESET SCI7701YTA
IC501 CXP-80116 SERVO / SYSCON
X501 16MHZ
IC505 NJM2904M VOLTAGE ERROR AMP
IC510 NJM2902 INTEGRATOR
IC504 LB1631MT LOADING MOTOR DRIVE
M903 LOADING MOTOR
Q506 CFG AMP
IC506 CX20115 WAVE SHAPER
Q535 INVERTER
TP501 CAP. ERROR
Q626, 627 PWM POWER DRIVER
Q624, 625 SWITCH
IC621 MB3775 PULSE WIDTH MODULATION
Q521 KSR1103 SWITCH
Q622, 623 PWM POWER DRIVER
Q628 PROTECTION DETECTOR
VR621 4.7K
IC509 CXA1204 ATF SERVO PILOT
Q524 INVERTER
Q525 PB RF AMP
Q528 BUFFER
Q522 STARTER
IC507 CX20114 DRUM MOTOR DRIVE
IC508 CXA1127 CAPSTAN MOTOR DRIVE
CN503(BLK)
CN504(RED)
DRUM FG PG
M901 DRUM MOTOR
CN510

SYSTEM CONTROL/ SERVO

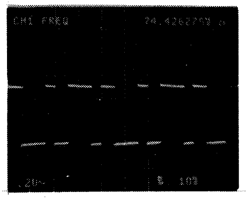
SYSTEM CONTROL/ SERVO

SYSTEM CONTROL/ SERVO

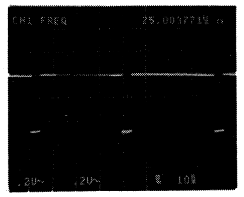

DRUM SPEED/PHASE
Q524 INVERTER
Q525 PB RF AMP
IC510 NJM2902 INTEGRATOR
Q526, 527 ENVELOPE DETECT
IC508 CXA1127 CAPSTAN MOTOR DRIVE
TO VIDEO HEAD AMP BLOCK
W502
TO Y-C BOARD CN502
W501
TO Y-C BOARD CN501
TO AUDIO BLOCK
W901
TO START/STOP BOARD CN901
CN510
CAPSTAN FG
M902 CAPSTAN MOTOR



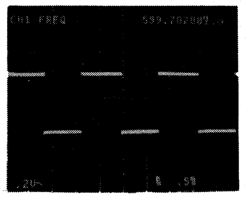
IC501-1
SEL 2 (PB MODE)
0.2V/10ms, 0.5Vp-p



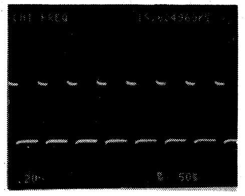
IC501-2
SEL 1 (PB MODE)
0.2V/10ms, 0.5Vp-p



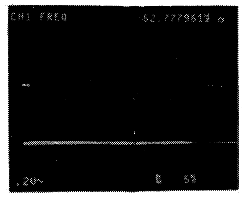
IC501-4
TSB (PB MODE)
0.2V/10ms, 0.5V



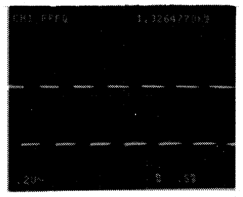
IC501-61
D.FG (PB MODE)
0.2V/0.5ms, 0.5Vp-p



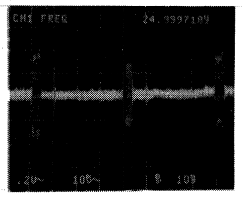
IC501-67
PWM (PB MODE)
0.2V/50us, 0.5V



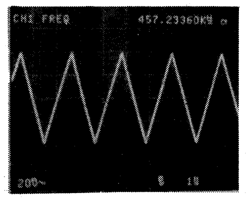
IC506-4
D.PG (PB MODE)
0.2V/5ms, 0.5Vp-p



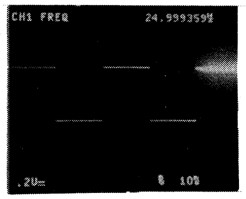
IC506-10
C.FG (PB MODE)
0.2V/0.5ms, 0.5Vp-p



IC509-33
FH IN (PB MODE)
100mV/10ms, 0.3Vp-p



TP502
PWM (PB MODE)
0.2V/1us, 0.8Vp-p



TP503
H'd SW (PB MODE)
0.2V/10ms, 4.8Vp-p

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

IC 501 (CXP80116)		
PIN NO	PLAY BACK	RECORD
1	2.6V	2.6V
2	2.6V	2.6V
3	5.0V	5.0V
4	4.6V	2.6V
5	0.0V	0.0V
6	0.0V	0.0V
7	5.0V	5.0V
8	0.0V	0.0V
9	5.0V	5.0V
10	5.0V	5.0V
11	0.0V	0.0V
12	5.0V	5.0V
13	5.0V	5.0V
14	0.0V	0.0V
15	4.6V	5.0V
16	4.6V	5.0V
17	4.6V	5.0V
18	4.5V	4.9V
19	0.0V	0.0V
20	0.0V	0.0V
21	0.0V	0.0V
22	0.0V	0.0V
23	0.0V	0.0V
24	5.0V	5.0V
25	5.0V	5.0V
26	5.0V	5.0V
27	0.0V	0.0V
28	0.0V	0.0V
29	4.3V	4.3V
30	0.0V	0.0V
31	0.0V	0.0V
32	5.0V	5.0V
33	0.0V	0.0V
34	2.6V	2.6V
35	2.6V	2.6V
36	5.0V	5.0V
37	0.0V	0.0V
38	5.0V	5.0V
39	5.0V	5.0V
40	5.0V	5.0V

IC 501 (CXP80116)		
PIN NO	PLAY BACK	RECORD
41	4.7V	4.6V
42	5.0V	5.0V
43	5.0V	5.0V
44	5.0V	5.0V
45	5.0V	5.0V
46	5.0V	5.0V
47	5.0V	5.0V
48	3.2V	3.1V
49	3.4V	3.3V
50	0.0V	0.0V
51	2.7V	2.7V
52	0.0V	0.0V
53	5.0V	5.0V
54	5.0V	5.0V
55	0.0V	0.0V
56	0.0V	0.0V
57	0.0V	5.0V
58	0.0V	0.0V
59	0.0V	4.8V
60	0.0V	0.0V
61	2.8V	2.8V
62	2.6V	2.6V
63	0.0V	0.0V
64	0.0V	0.0V
65	1.4V	1.4V
66	2.7V	2.7V
67	1.3V	1.3V
68	0.0V	0.0V
69	2.6V	2.6V
70	0.0V	0.0V
71	5.0V	5.0V
72	5.0V	5.0V
73	0.0V	0.0V
74	5.0V	5.0V
75	5.0V	5.0V
76	5.0V	5.0V
77	5.0V	5.0V
78	5.0V	5.0V
79	0.0V	0.0V
80	2.6V	2.6V

IC 504 (LB1631)		
PIN NO	PLAY BACK	RECORD
1	0.0V	0.0V
2	5.0V	5.0V
3	0.0V	0.0V
4	0.0V	0.0V
5	5.0V	5.0V
6	0.0V	0.0V
7	0.0V	0.0V
8	0.0V	0.0V
9	0.0V	0.0V
10	0.0V	0.0V
11	0.0V	0.0V
12	0.0V	0.0V
13	5.0V	5.0V
14	0.0V	0.0V
15	0.0V	0.0V
16	0.0V	0.0V

IC 505 (NJM2904)		
PIN NO	PLAY BACK	RECORD
1	0.0V	0.0V
2	2.8V	2.8V
3	2.8V	2.8V
4	0.0V	0.0V
5	3.4V	3.4V
6	3.9V	0.0V
7	0.0V	4.9V
8	5.0V	5.0V

IC 506 (CX20115)		
PIN NO	PLAY BACK	RECORD
1	2.7V	2.7V
2	2.7V	2.7V
3	2.9V	2.9V
4	2.7V	2.7V
5	0.0V	0.0V
6	2.0V	2.0V
7	0.0V	0.0V
8	0.0V	0.0V
9	5.0V	5.0V
10	2.7V	2.7V
11	2.6V	2.6V
12	2.8V	2.8V
13	5.0V	5.0V
14	2.7V	2.7V
15	2.8V	2.8V
16	2.8V	2.8V

IC 507 (CX20114)		
PIN NO	PLAY BACK	RECORD
1	1.2V	1.4V
2	1.2V	1.3V
3	1.3V	1.4V
4	0.0V	0.0V
5	6.0V	6.0V
6	0.0V	0.0V
7	6.0V	6.0V
8	5.0V	5.0V
9	0.6V	0.6V
10	6.0V	6.0V
11	5.0V	5.0V
12	0.0V	0.0V
13	1.0V	1.0V
14	1.4V	0.0V
15	0.0V	0.0V
16	0.0V	0.0V
17	0.9V	0.9V
18	1.3V	1.3V
19	0.7V	0.7V
20	0.0V	0.0V
21	0.0V	0.0V
22	1.3V	1.3V
23	1.3V	1.3V
24	1.3V	1.3V

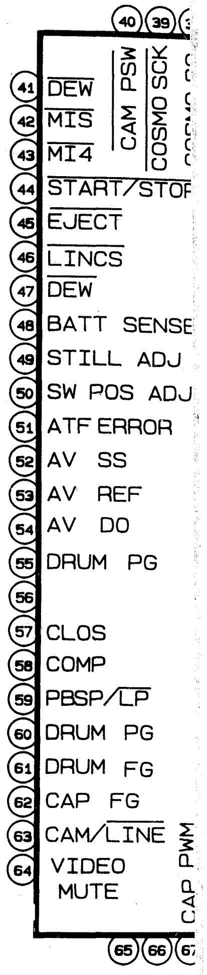
IC 508 (CXA1127)		
PIN NO	PLAY BACK	RECORD
1	0.0V	0.0V
2	0.0V	0.0V
3	0.0V	0.0V
4	1.2V	1.2V
5	1.2V	1.2V
6	1.2V	1.2V
7	0.0V	0.0V
8	2.3V	2.3V
9	6.0V	6.0V
10	5.0V	5.0V
11	5.0V	5.0V
12	1.7V	1.7V
13	5.0V	5.0V
14	0.0V	0.0V
15	0.0V	0.0V
16	0.0V	0.0V
17	0.0V	0.0V
18	1.6V	1.6V
19	0.0V	0.0V
20	5.0V	5.0V
21	2.3V	2.3V
22	1.3V	1.3V
23	1.5V	1.5V
24	1.5V	1.5V
25	1.5V	1.5V
26	1.5V	1.5V
27	1.5V	1.5V
28	1.5V	1.5V
29	0.0V	0.0V
30	0.0V	0.0V

IC 509 (CXA1204)		
PIN NO	PLAY BACK	RECORD
1	0.0V	0.0V
2	4.6V	2.6V
3	0.0V	0.0V
4	0.0V	0.0V
5	0.0V	0.0V
6	2.8V	2.8V
7	0.0V	0.0V
8	2.7V	2.7V
9	0.0V	0.0V
10	1.3V	3.8V
11	2.7V	2.7V
12	2.7V	2.7V
13	0.0V	0.0V
14	2.6V	2.6V
15	0.0V	0.0V
16	2.7V	2.7V
17	0.0V	0.0V
18	0.0V	0.0V
19	0.0V	0.0V
20	5.0V	5.0V
21	2.6V	2.6V
22	0.0V	0.0V
23	2.6V	2.6V
24	1.8V	2.5V
25	3.7V	0.0V
26	0.0V	0.0V
27	5.0V	5.0V
28	5.0V	5.0V
29	0.0V	0.0V
30	1.6V	2.2V
31	2.6V	3.8V
32	2.6V	2.6V
33	2.6V	2.6V
34	0.0V	0.0V
35	3.1V	2.7V
36	2.7V	2.7V
37	0.0V	0.0V
38	1.7V	3.0V
39	1.9V	2.1V
40	1.9V	0.0V
41	0.0V	0.0V
42	3.0V	2.5V
43	1.5V	4.6V
44	3.2V	3.2V

IC 510 (NJM2902)		
PIN NO	PLAY BACK	RECORD
1	0.0V	0.0V
2	0.0V	0.0V
3	1.4V	1.4V
4	5.0V	5.0V
5	2.7V	2.7V
6	1.4V	1.4V
7	4.0V	4.0V
8	4.1V	4.1V
9	2.3V	2.3V
10	3.0V	3.0V
11	0.0V	0.0V
12	2.7V	2.7V
13	2.7V	2.7V
14	1.1V	1.1V

IC621 (MB3775)		
PIN NO	PLAY BACK	RECORD
1	1.8V	2.0V
2	1.4V	1.6V
3	0.7V	0.7V
4	0.7V	0.7V
5	1.8V	1.8V
6	0.0V	0.3V
7	3.7V	3.7V
8	0.0V	0.0V
9	5.0V	5.0V
10	4.1V	4.3V
11	0.0V	0.0V
12	1.8V	2.0V
13	0.5V	0.5V
14	0.5V	0.5V
15	0.0V	0.0V
16	1.4V	1.4V

IC501 (CXP-801



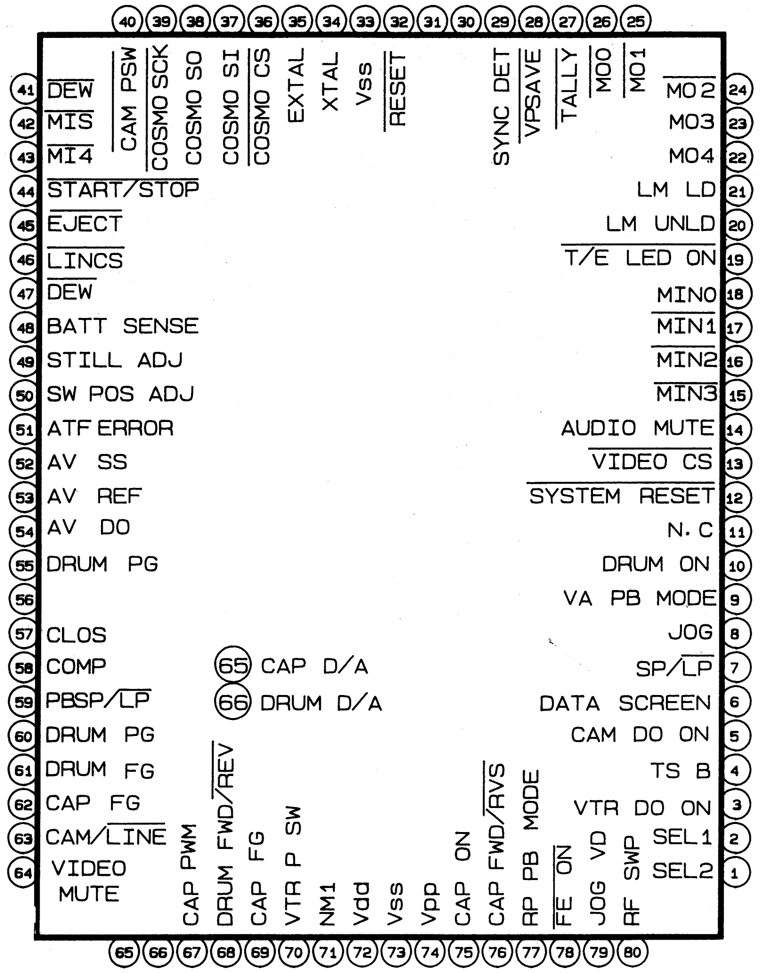
IC 510 (NJM2902)

NO	PLAY BACK	RECORD
	0.0V	0.0V
	0.0V	0.0V
	1.4V	1.4V
	5.0V	5.0V
	2.7V	2.7V
	1.4V	1.4V
	4.0V	4.0V
	4.1V	4.1V
	2.3V	2.3V
	3.0V	3.0V
	0.0V	0.0V
	2.7V	2.7V
	2.7V	2.7V
	1.1V	1.1V

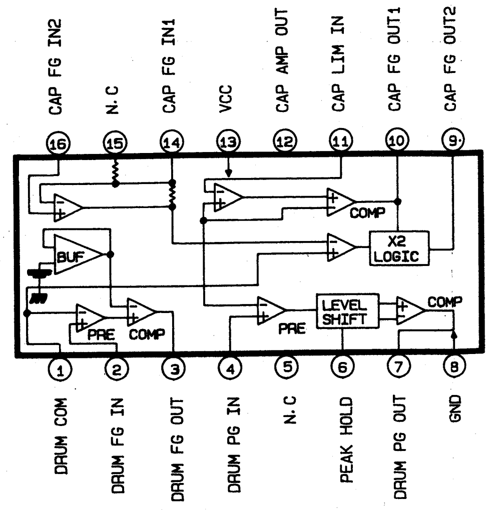
IC621 (MB3775)

NO	PLAY BACK	RECORD
	1.8V	2.0V
	1.4V	1.6V
	0.7V	0.7V
	0.7V	0.7V
	1.8V	1.8V
	0.0V	0.3V
	3.7V	3.7V
	0.0V	0.0V
	5.0V	5.0V
	4.1V	4.3V
	0.0V	0.0V
	1.8V	2.0V
	0.5V	0.5V
	0.5V	0.5V
	0.0V	0.0V
	1.4V	1.4V

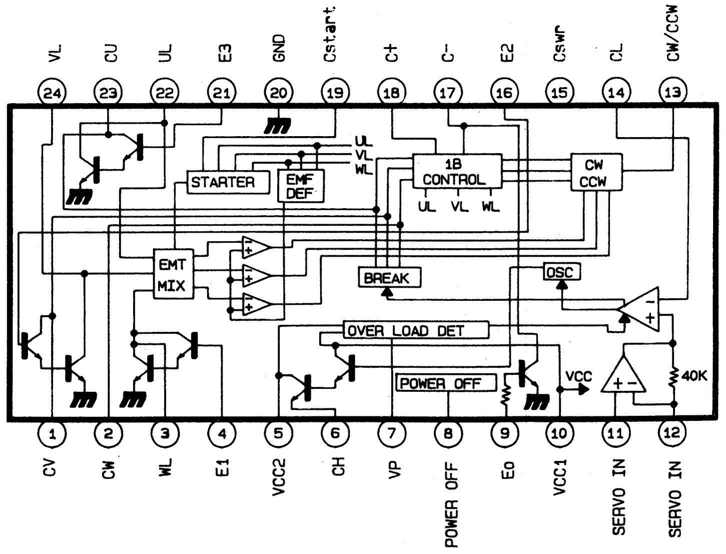
IC501 (CXP-80116)


CAM PSW
COSMO SCK
COSMO SO
COSMO SI
COSMO CS
EXTAL
XTAL
Vss
RESET
SYNC DET
VPSAVE
TALLY
MO0
MO1
DEW
MIS
MI4
START/STOP
EJECT
LINCS
DEW
BATT SENSE
STILL ADJ
SW POS ADJ
ATF ERROR
AV SS
AV REF
AV DO
DRUM PG
CLOS
COMP
PBSP/LP
DRUM PG
DRUM FG
CAP FG
CAM/LINE
VIDEO MUTE
MO2
MO3
MO4
LM LD
LM UNLD
T/E LED ON
MIN0
MIN1
MIN2
MIN3
AUDIO MUTE
VIDEO CS
SYSTEM RESET
N.C
DRUM ON
VA PB MODE
JOG
SP/LP
DATA SCREEN
CAM DO ON
TS B
VTR DO ON
SEL1
SEL2
(65) CAP D/A
(66) DRUM D/A
CAP PWM
DRUM FWD/REV
CAP FG
VTR P SW
NM1
Vdd
Vss
Vpp
CAP ON
CAP FWD/RVS
RP PB MODE
FE ON
JOG VD
RF SWP
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

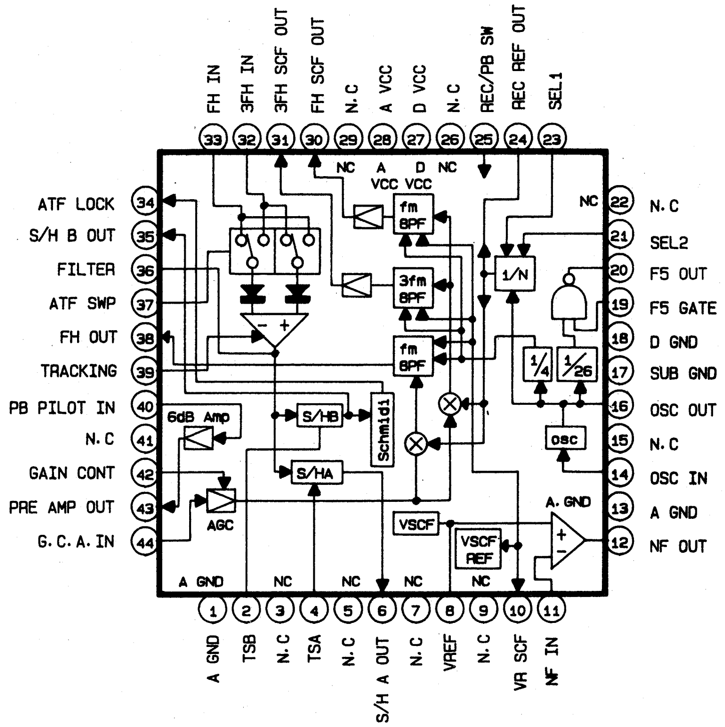
IC506 (CX20115)


CAP FG IN2
N.C
CAP FG IN1
VCC
CAP AMP OUT
CAP LIM IN
CAP FG OUT1
CAP FG OUT2
BUF
COMP
X2 LOGIC
PRE
COMP
PRE
LEVEL SHIFT
COMP
DRUM COM
DRUM FG IN
DRUM FG OUT
DRUM PG IN
N.C
PEAK HOLD
DRUM PG OUT
GND

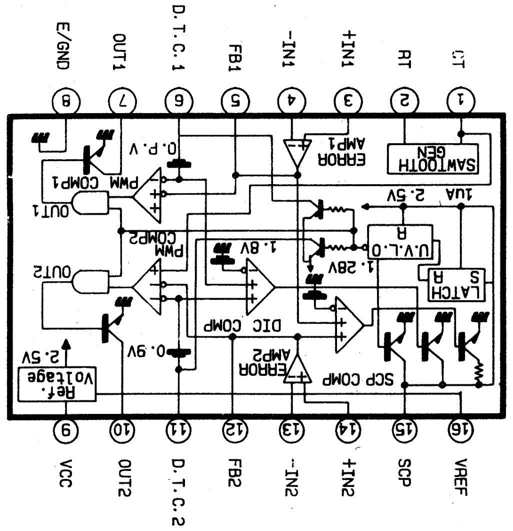
IC507 (CX20114)


VL
CU
UL
E3
GND
Cstart
C+
C-
E2
Cswr
CL
CW/CCW
UL
VL
WL
STARTER
EMF DEF
1B CONTROL
UL VL WL
CW CCW
EMT MIX
BREAK
OSC
OVER LOAD DET
POWER OFF
VCC
40K
CV
CW
WL
E1
VCC2
CH
VP
POWER OFF
Eo
VCC1
SERVO IN
SERVO IN

IC509 (CXA1204)


FH IN
3FH IN
3FH SCF OUT
FH SCF OUT
N.C
A VCC
D VCC
N.C
REC/PB SW
REC REF OUT
SEL1
NC A D NC
VCC VCC
fm BPF
3fm BPF
fm BPF
1/N
NC
1/4
1/26
OSC
6dB Amp
S/HB
S/HA
Schmidl
AGC
VSCF
VSCF REF
A.GND
A GND NC NC NC NC
ATF LOCK
S/H B OUT
FILTER
ATF SWP
FH OUT
TRACKING
PB PILOT IN
N.C
GAIN CONT
PRE AMP OUT
G.C.A.IN
N.C
SEL2
F5 OUT
F5 GATE
D GND
SUB GND
OSC OUT
N.C
OSC IN
A GND
NF OUT
A GND
TSB
N.C
TSA
N.C
S/H A OUT
N.C
VREF
N.C
VR SCF
NF IN

IC621 (MB3775)

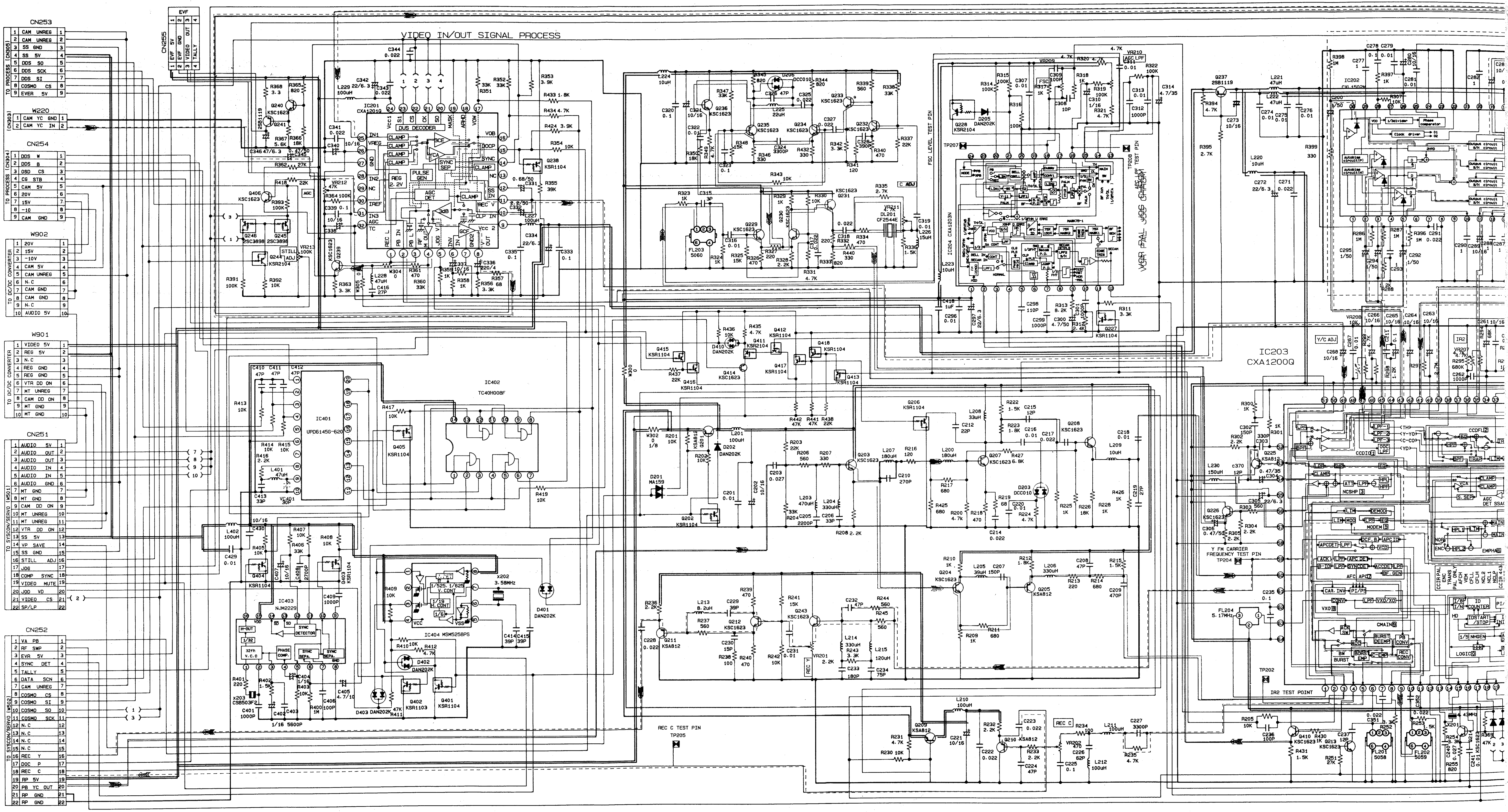

E/GND
OUT1
D.T.C.1
FB1
-IN1
+IN1
RT
CT
O.P.V
ERROR AMP1
SAWTOOTH GEN
PWM COMP1
OUT1
2.5V
1UA
U.V.L.O
R
PWM COMP2
1.8V
1.28V
LATCH S R
OUT2
DIC COMP
0.9V
ERROR AMP2
SCP COMP
Ref. Voltage
2.5V
VCC
OUT2
D.T.C.2
FB2
-IN2
+IN2
SCP
VREF

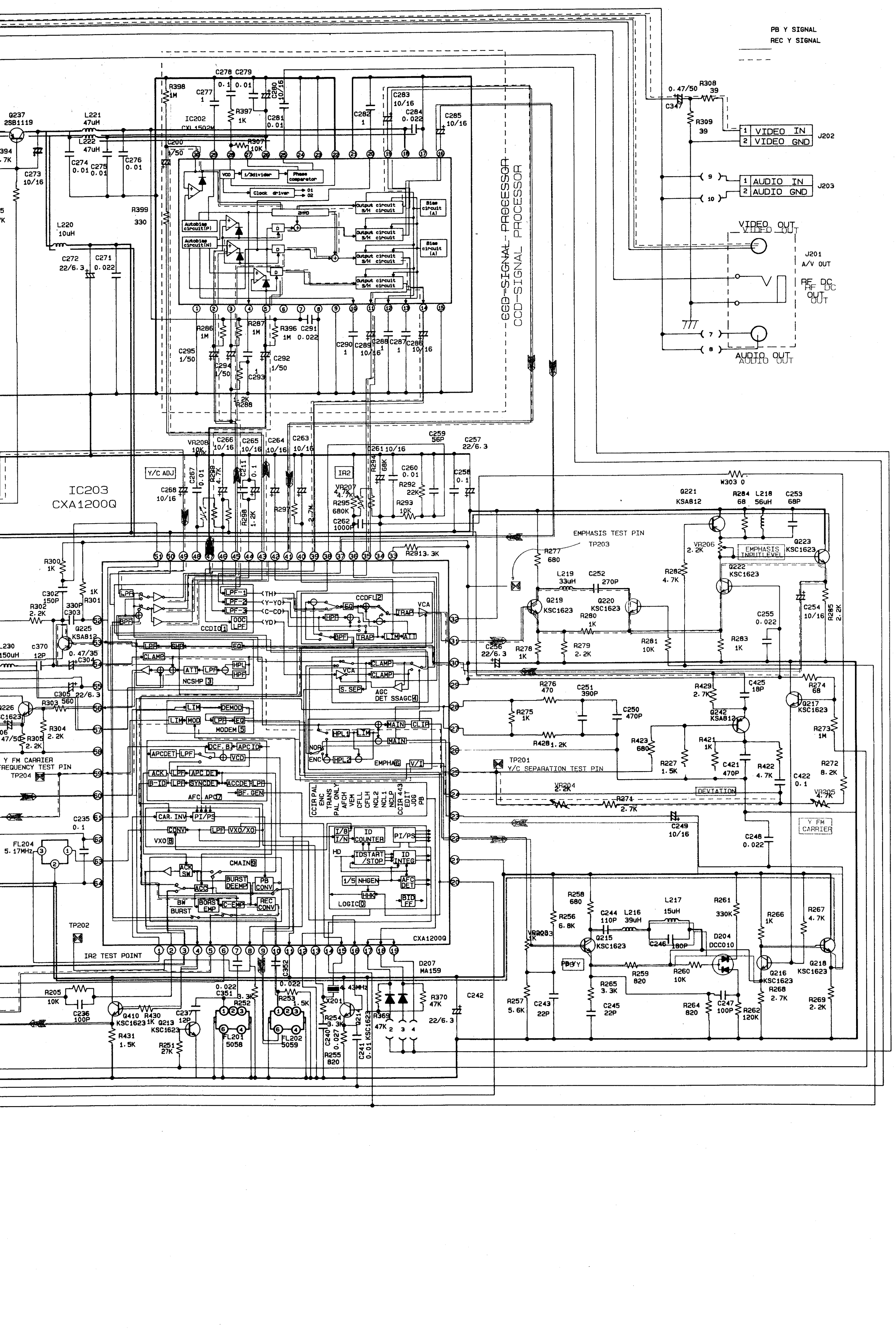
11-1-4. Video

RED ———— PB Y PROCESS
-------- REC Y PROCESS

BLUE ———— PB C PROCESS
-------- REC C PROCESS

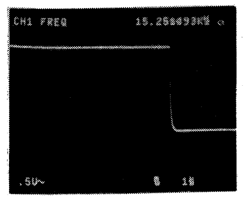
GREEN ———— PB Y+C PROCESS
-------- PB Y+C PROCESS


CN253
TO PROCESS (CN305)
CAM UNREG
SS GND
SS 5V
DDS SO
DDS SCK
DDS SI
COSMO CS
EVER 5V
W220
CAM YC GND
CAM YC IN
CN254
TO PROCESS (CN304)
W902
TO DC/DC CONVERTER
W901
CN251
CN252
TO SYSCON/SERVO (W501)
TO SYSCON/SERVO (W502)
CN255
EVF
VIDEO IN/OUT SIGNAL PROCESS
IC201 CXA1201Q
IC401 UPD6145G-620
IC402 TC40H008F
IC403 NJM2229
IC404 MSM5258PS
X202 3.58MHz
IC204 CXA1203N
VCR PAL JOG CHROMA
FSC LEVEL TEST PIN
TP207
TP208
IC203 CXA1200Q
IC202
Y FM CARRIER FREQUENCY TEST PIN
TP204
REC C TEST PIN
TP205
IR2 TEST POINT
TP202
FL203 5060
FL204 5.17MHz
FL201 5058
FL202 5059

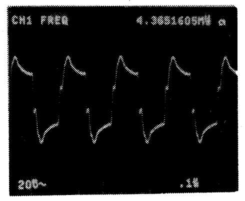

PB Y SIGNAL
REC Y SIGNAL
IC202
CCD-SIGNAL PROCESSOR
IC203
CXA1200Q
J202
VIDEO IN
VIDEO GND
J203
AUDIO IN
AUDIO GND
VIDEO OUT
J201
A/V OUT
RF DC OUT
AUDIO OUT
EMPHASIS TEST PIN
TP203
EMPHASIS INPUT LEVEL
TP201
Y/C SEPARATION TEST PIN
DEVIATION
Y FM CARRIER
Y FM CARRIER FREQUENCY TEST PIN
TP204
TP202
IR2 TEST POINT
Y/C ADJ
IR2
CXA1200Q

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

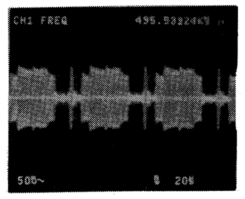
SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatic sensitive (ES) devices" section of this service manual.



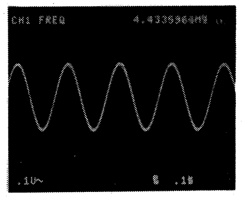
TP202
IR2 ADJ. (REC MODE)
0.5V/1us, 7.2us



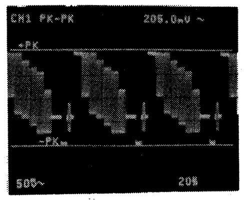
TP204
Y FM CARR ADJ. (REC MODE)
0.2V/0.1us, 0.8Vp-p



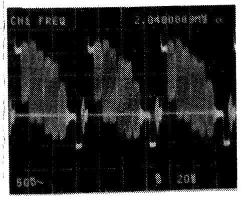
TP205
fsc IN (PB MODE)
50uV/20us, 120mVp-p



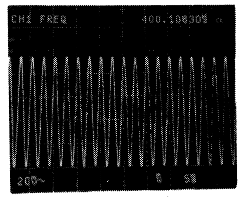
TP207
REC C (REC MODE)
0.1V/0.1us, 250mVp-p



VIDEO OUT JACK
VIDEO EE OUT (EE MODE)
0.5V/20us, 2Vp-p



VIDEO OUT JACK
VIDEO OUT (PB MODE)
0.5V/20us, 2Vp-p



AUDIO OUT JACK
AUDIO OUT (PB MODE)
0.2V/5ms, 0.92Vp-p

IC201 (CXA1201)		
PIN NO	PLAY BACK	RECORD
1	2.4V	2.5V
2	2.4V	2.5V
3	2.4V	2.5V
4	2.4V	2.5V
5	0.7V	0.9V
6	2.0V	2.1V
7	0.0V	0.0V
8	2.6V	2.7V
9	5.0V	5.0V
10	2.1V	2.1V
11	2.1V	2.1V
12	2.8V	2.7V
13	0.0V	0.0V
14	0.4V	0.4V
15	0.0V	0.0V
16	1.0V	1.0V
17	0.0V	0.0V
18	0.0V	0.0V
19	0.0V	0.0V
20	3.6V	3.8V
21	5.0V	5.0V
22	0.0V	0.0V
23	5.0V	5.0V
24	5.0V	5.0V
25	2.5V	2.5V
26	4.3V	4.4V
27	0.0V	0.0V
28	2.3V	2.4V
29	0.0V	0.0V
30	2.2V	2.4V
31	2.3V	2.4V
32	4.1V	2.6V

IC 203 (CXA1200Q)		
PIN NO	PLAY BACK	RECORC
1	2.3V	2.3V
2	0.0V	0.0V
3	3.2V	2.8V
4	2.7V	2.0V
5	0.0V	2.5V
6	2.7V	1.1V
7	2.7V	2.7V
8	0.5V	0.5V
9	2.1V	1.6V
10	2.4V	2.3V
11	5.0V	5.0V
12	0.0V	0.0V
13	2.4V	2.4V
14	2.7V	2.7V
15	3.6V	3.6V
16	2.6V	2.6V
17	5.0V	5.0V
18	5.0V	5.0V
19	3.7V	3.7V
20	0.5V	0.5V
21	5.0V	5.0V
22	2.6V	2.5V
23	2.5V	2.5V
24	2.4V	2.4V
25	1.1V	2.5V
26	0.0V	0.0V
27	2.5V	2.5V
28	2.6V	2.5V
29	2.3V	2.4V
30	2.7V	2.8V
31	2.7V	2.8V
32	5.0V	5.0V

IC 203 (CXA1200Q)		
PIN NO	PLAY BACK	RECORD
33	2.3V	2.4V
34	4.5V	4.9V
35	2.7V	2.8V
36	2.4V	2.4V
37	2.7V	2.8V
38	3.1V	3.2V
39	2.7V	2.8V
40	3.0V	3.1V
41	2.7V	2.7V
42	2.7V	2.7V
43	2.5V	2.7V
44	2.7V	2.7V
45	2.9V	2.8V
46	3.7V	3.8V
47	2.9V	2.8V
48	1.9	1.9V
49	2.7V	2.7V
50	5.0V	5.0V
51	2.3V	2.3V
52	2.4V	2.3V
53	1.8V	1.8V
54	2.6V	2.6V
55	5.0V	5.0V
56	2.5V	2.2V
57	2.8V	0.5V
58	0.0V	0.0V
59	3.7V	3.3V
60	3.0V	3.3V
61	2.6V	2.5V
62	0.0V	0.0V
63	2.7V	2.7V
64	5.0V	5.0V

IC 204 (CXA1203)		
PIN NO	PLAY BACK	RECORD
1	4.5V	1.1V
2	2.5V	1.9V
3	0.0V	0.0V
4	2.6V	1.0V
5	2.5V	0.0V
6	0.0V	0.0V
7	2.2V	0.0V
8	2.6V	0.0V
9	2.1V	0.5V
10	1.1V	0.5V
11	0.3V	0.2V
12	0.0V	0.0V
13	4.3V	0.0V
14	2.3V	0.0V
15	2.2V	0.0V
16	2.6V	0.7V
17	4.5V	0.4V
18	0.1V	0.1V
19	4.5V	0.1V
20	0.0V	0.0V
21	2.3V	0.6V
22	3.3V	0.7V
23	4.5V	1.1V
24	1.5V	0.0V

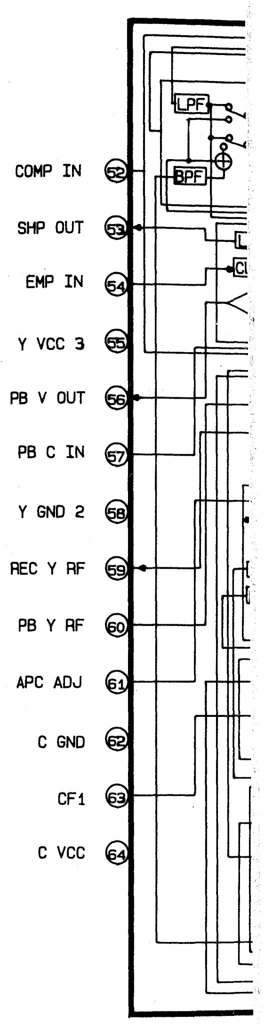
IC 401 (uPD6145G)		
PIN NO	PLAY BACK	RECORD
1	0.0V	0.0V
2	5.0V	5.0V
3	0.3V	0.3V
4	2.5V	2.5V
5	0.0V	0.0V
6	5.0V	5.0V
7	2.1V	2.1V
8	2.6V	2.6V
9	2.7V	2.7V
10	0.0V	0.0V
11	0.8V	0.8V
12	0.0V	0.0V
13	0.3V	0.3V
14	0.0V	0.0V
15	0.2V	0.2V
16	0.0V	0.0V
17	0.0V	0.0V
18	5.0V	5.0V
19	4.7V	4.7V
20	4.7V	4.7V

IC 404 (MSM5258)		
PIN NO	PLAY BACK	RECORD
1	0.0V	0.0V
2	0.0V	0.0V
3	0.0V	0.0V
4	5.0V	5.0V
5	0.0V	0.0V
6	1.7V	1.7V
7	2.4V	2.4V
8	5.0V	5.0V

IC 402 (TC40H008F)		
PIN NO	PLAY BACK	RECORD
1	0.1V	0.1V
2	0.8V	0.8V
3	0.0V	0.0V
4	0.1V	0.1V
5	0.8V	0.8V
6	0.0V	0.0V
7	0.0V	0.0V
8	0.1V	0.1V
9	4.5V	4.5V
10	0.1V	0.1V
11	0.1V	0.1V
12	4.5V	4.5V
13	0.2V	0.2V
14	5.0V	5.0V

IC 403 (NJM2229)		
PIN NO	PLAY BACK	RECORD
1	2.9V	3.0V
2	2.3V	2.4V
3	2.6V	2.7V
4	0.0V	0.0V
5	0.6V	0.7V
6	3.5V	3.5V
7	2.8V	2.8V
8	0.0V	0.0V
9	0.3V	0.4V
10	0.4V	0.4V
11	0.9V	0.9V
12	3.1V	3.2V
13	0.0V	0.0V
14	4.5V	4.5V
15	5.0V	5.0V
16	0.5V	0.5V

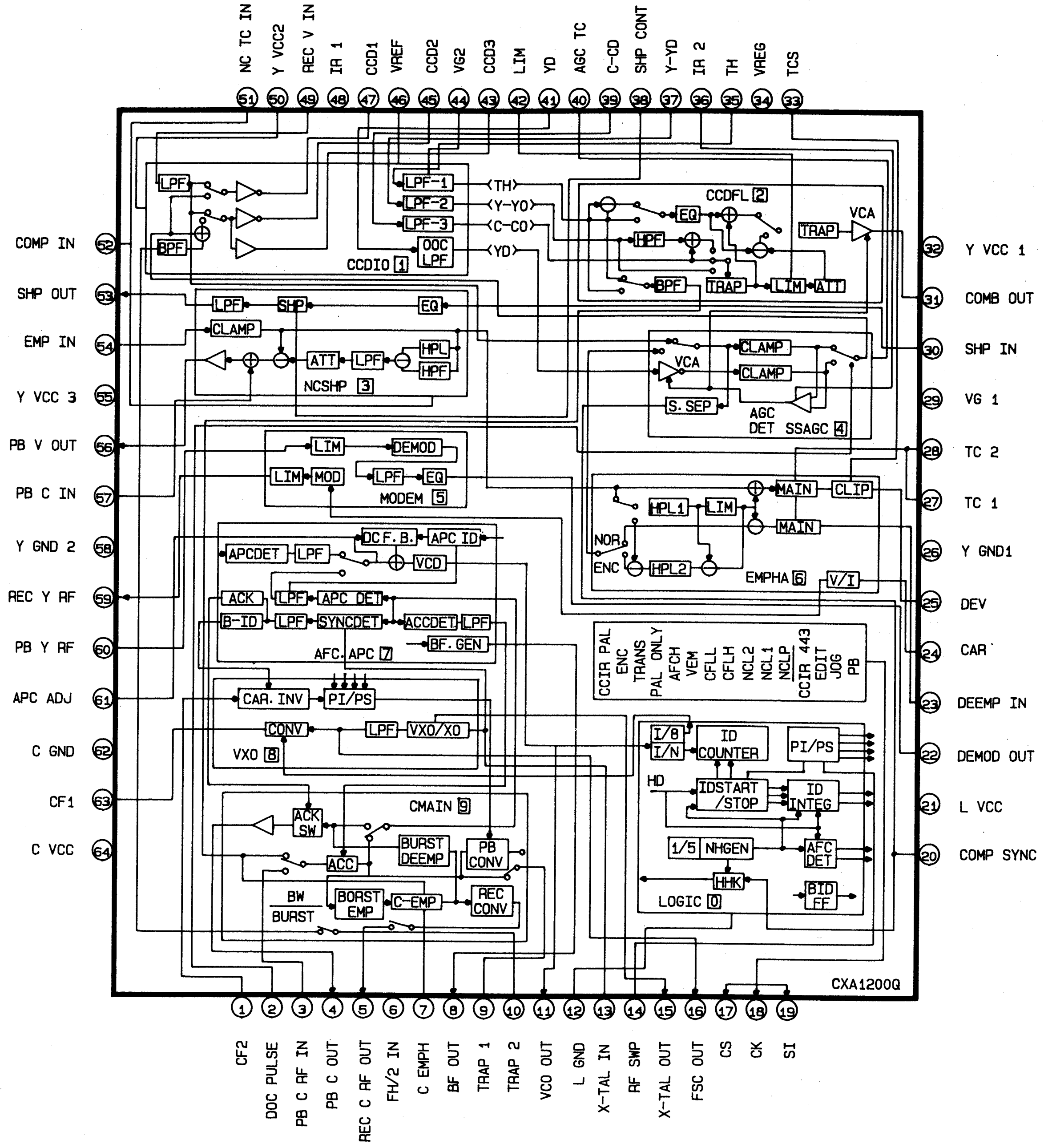
IC203 (CXA1200Q



(TC40H008F)	
Y BACK	RECORD
1V	0.1V
8V	0.8V
0V	0.0V
1V	0.1V
8V	0.8V
0V	0.0V
0V	0.0V
1V	0.1V
5V	4.5V
1V	0.1V
1V	0.1V
5V	4.5V
2V	0.2V
0V	5.0V

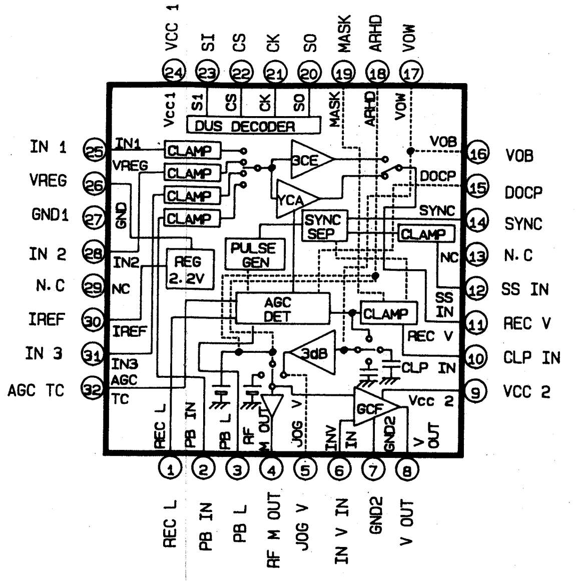
(NJM2229)	
BACK	RECORD
9V	3.0V
3V	2.4V
6V	2.7V
0V	0.0V
6V	0.7V
5V	3.5V
8V	2.8V
0V	0.0V
3V	0.4V
4V	0.4V
9V	0.9V
1V	3.2V
0V	0.0V
5V	4.5V
0V	5.0V
5V	0.5V

IC203 (CXA1200Q)



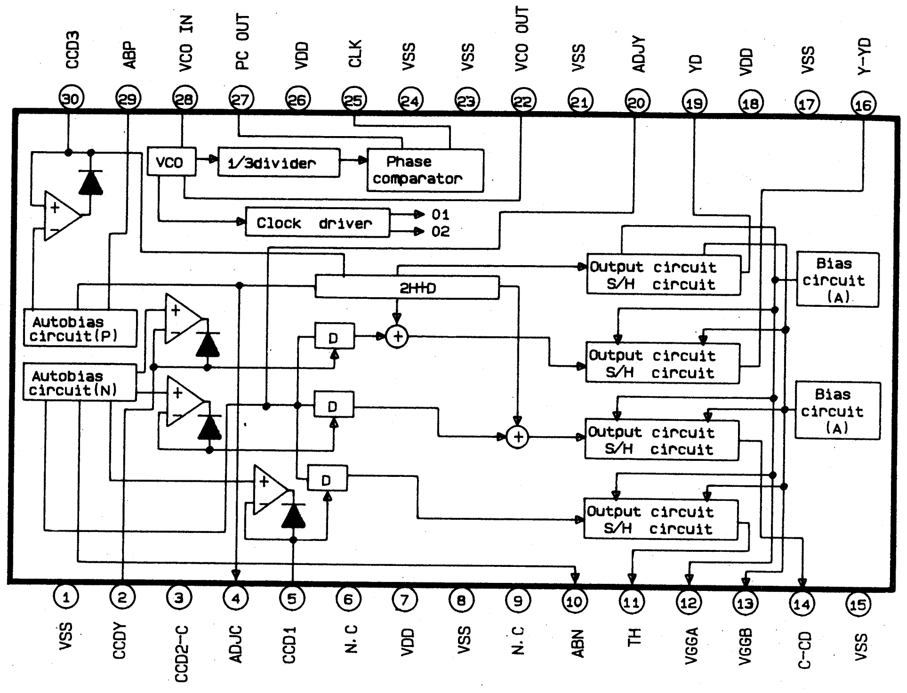
(51) NC TC IN
(50) Y VCC2
(49) REC V IN
(48) IR 1
(47) CCD1
(46) VREF
(45) CCD2
(44) VG2
(43) CCD3
(42) LIM
(41) YD
(40) AGC TC
(39) C-CD
(38) SHP CONT
(37) Y-YD
(36) IR 2
(35) TH
(34) VREG
(33) TCS
(52) COMP IN
(53) SHP OUT
(54) EMP IN
(55) Y VCC 3
(56) PB V OUT
(57) PB C IN
(58) Y GND 2
(59) REC Y RF
(60) PB Y RF
(61) APC ADJ
(62) C GND
(63) CF1
(64) C VCC
(32) Y VCC 1
(31) COMB OUT
(30) SHP IN
(29) VG 1
(28) TC 2
(27) TC 1
(26) Y GND1
(25) DEV
(24) CAR
(23) DEEMP IN
(22) DEMOD OUT
(21) L VCC
(20) COMP SYNC
(1) CF2
(2) DOC PULSE
(3) PB C RF IN
(4) PB C OUT
(5) REC C RF OUT
(6) FH/2 IN
(7) C EMPH
(8) BF OUT
(9) TRAP 1
(10) TRAP 2
(11) VCO OUT
(12) L GND
(13) X-TAL IN
(14) RF SWP
(15) X-TAL OUT
(16) FSC OUT
(17) CS
(18) CK
(19) SI
LPF
BPF
LPF-1
LPF-2
LPF-3
(TH)
(Y-YO)
(C-CO)
(YD)
OOC LPF
CCDIO 1
CCDFL 2
EQ
HPF
BPF
TRAP
LIM
ATT
TRAP
VCA
LPF
SHP
EQ
CLAMP
ATT
LPF
HPL
HPF
NCSHP 3
VCA
CLAMP
CLAMP
S.SEP
AGC DET SSAGC 4
LIM
DEMOD
LIM
MOD
LPF
EQ
MODEM 5
HPL1
LIM
MAIN
CLIP
MAIN
NOR
ENC
HPL2
EMPHA 6
V/I
DCF.B.
APC ID
APCDET
LPF
VCD
ACK
LPF
APC DET
B-ID
LPF
SYNCDET
ACCDET
LPF
AFC.APC 7
BF.GEN
CCIR PAL
ENC
TRANS
PAL ONLY
AFCH
VEM
CFLL
CFLH
NCL2
NCL1
NCLP
CCIR 443
EDIT
JOG
PB
CAR.INV
PI/PS
CONV
LPF
VXO/XO
VXO 8
I/8
I/N
ID COUNTER
PI/PS
HD
IDSTART /STOP
ID INTEG
CMAIN 9
ACK SW
BURST DEEMP
PB CONV
ACC
1/5
NHGEN
AFC DET
BW
BURST
BORST EMP
C-EMP
REC CONV
HHK
LOGIC 0
BID FF
CXA1200Q

IC201 (CXA1201Q)



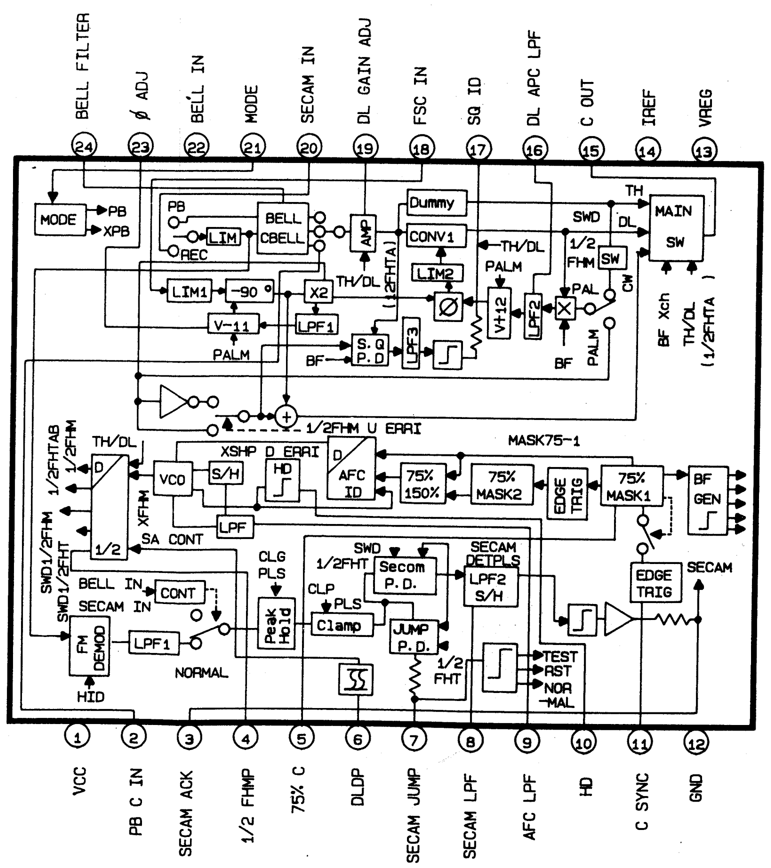
(24) VCC 1
(23) SI
(22) CS
(21) CK
(20) SO
(19) MASK
(18) ARHD
(17) VOW
(25) IN 1
(26) VREG
(27) GND1
(28) IN 2
(29) N.C
(30) IREF
(31) IN 3
(32) AGC TC
(16) VOB
(15) DOCP
(14) SYNC
(13) N.C
(12) SS IN
(11) REC V
(10) CLP IN
(9) VCC 2
(1) REC L
(2) PB IN
(3) PB L
(4) RF M OUT
(5) JOG V
(6) IN V IN
(7) GND2
(8) V OUT
Vcc1
SI
CS
CK
SO
MASK
ARHD
VOW
DUS DECODER
IN1
VREG
CLAMP
CLAMP
CLAMP
CLAMP
GND
YCE
YCA
VOB
DOCP
SYNC
SYNC SEP
CLAMP
IN2
NC
IREF
IN3
AGC
TC
PULSE GEN
REG 2.2V
AGC DET
CLAMP
NC
SS IN
REC V
CLP IN
3dB
Vcc 2
GCF
REC L
PB IN
PB L
RF M OUT
JOG V
INV
IN
GND2
V OUT

IC202 (CXL1502M)



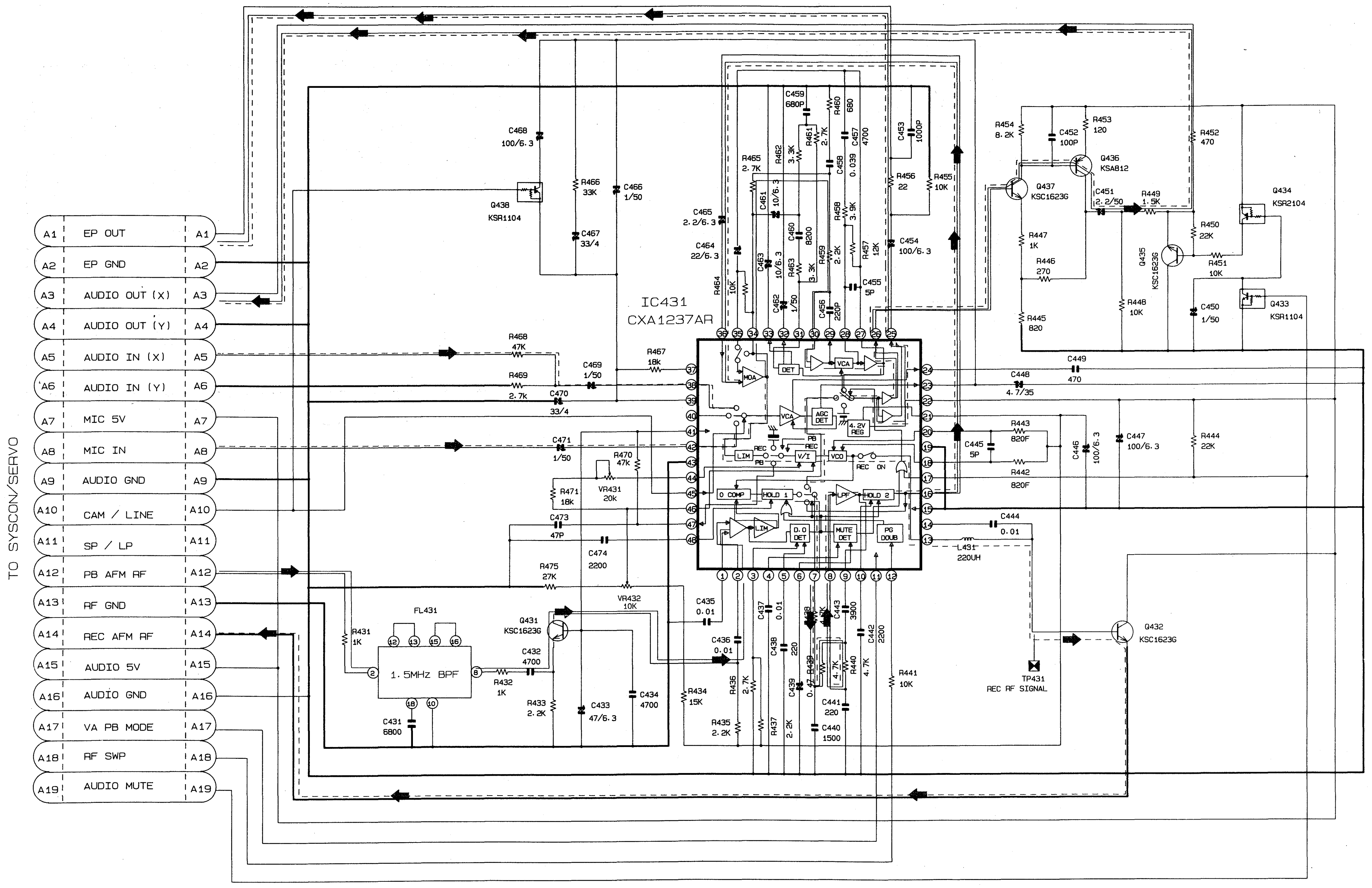
(30) CCD3
(29) ABP
(28) VCO IN
(27) PC OUT
(26) VDD
(25) CLK
(24) VSS
(23) VSS
(22) VCO OUT
(21) VSS
(20) ADJY
(19) YD
(18) VDD
(17) VSS
(16) Y-YD
(1) VSS
(2) CCDY
(3) CCD2-C
(4) ADJC
(5) CCD1
(6) N.C
(7) VDD
(8) VSS
(9) N.C
(10) ABN
(11) TH
(12) VGGA
(13) VGGB
(14) C-CD
(15) VSS
VCO
1/3divider
Phase comparator
Clock driver
01
02
2H+D
Autobias circuit(P)
Autobias circuit(N)
D
D
D
Output circuit S/H circuit
Output circuit S/H circuit
Output circuit S/H circuit
Output circuit S/H circuit
Bias circuit (A)
Bias circuit (A)

IC204 (CXA1203N)

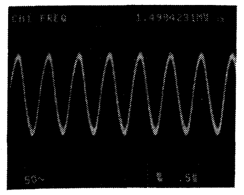


(24) BELL FILTER
(23) ∅ ADJ
(22) BELL IN
(21) MODE
(20) SECAM IN
(19) DL GAIN ADJ
(18) FSC IN
(17) SQ ID
(16) DL APC LPF
(15) C OUT
(14) IREF
(13) VREG
(1) VCC
(2) PB C IN
(3) SECAM ACK
(4) 1/2 FHMP
(5) 75% C
(6) DLDP
(7) SECAM JUMP
(8) SECAM LPF
(9) AFC LPF
(10) HD
(11) C SYNC
(12) GND
MODE
PB
XPB
PB
REC
LIM
BELL
CBELL
AMP
Dummy
CONV1
LIM2
TH/DL
PALM
SWD
DL
1/2 FHM
SW
TH
MAIN SW
PAL
CW
LIM1
-90
X2
TH/DL
(1/2FHTA)
V+12
LPF2
V-11
LPF1
S.Q P.D
LPF3
PALM
BF
BF
PALM
BF Xch
TH/DL (1/2FHTA)
1/2FHM U ERRI
MASK75-1
TH/DL
1/2FHTAB
1/2FHM
XSHP
D ERRI
VCO
S/H
HD
AFC ID
75% 150%
75% MASK2
EDGE TRIG
75% MASK1
BF GEN
XFHM
SA CONT
LPF
1/2
SWD1/2FHM
SWD1/2FHT
SWD
1/2FHT
Secom P.D.
SECAM DETPLS
LPF2 S/H
CLG PLS
CLP
PLS
Clamp
BELL IN
SECAM IN
CONT
EDGE TRIG
SECAM
FM DEMOD
LPF1
Peak Hold
JUMP P.D.
1/2 FHT
TEST
RST
NOR -MAL
NORMAL
HID

11-1-5. Audio


TO SYSCON/SERVO
A1 EP OUT A1
A2 EP GND A2
A3 AUDIO OUT (X) A3
A4 AUDIO OUT (Y) A4
A5 AUDIO IN (X) A5
A6 AUDIO IN (Y) A6
A7 MIC 5V A7
A8 MIC IN A8
A9 AUDIO GND A9
A10 CAM / LINE A10
A11 SP / LP A11
A12 PB AFM RF A12
A13 RF GND A13
A14 REC AFM RF A14
A15 AUDIO 5V A15
A16 AUDIO GND A16
A17 VA PB MODE A17
A18 RF SWP A18
A19 AUDIO MUTE A19
IC431
CXA1237AR
Q438 KSR1104
Q431 KSC1623G
Q432 KSC1623G
Q433 KSR1104
Q434 KSR2104
Q435 KSC1623G
Q436 KSA812
Q437 KSC1623G
FL431
1.5MHz BPF
TP431
REC RF SIGNAL
L431 220UH
VR431 20K
VR432 10K
MDA
DET
VCA
AGC DET
4.2V REG
LIM
V/I
VCO
REC
PB
0 COMP
HOLD 1
HOLD 2
LPF
D.O DET
MUTE DET
PG DOUB
R468 47K
R469 2.7K
C470 33/4
C471 1/50
C469 1/50
C468 100/6.3
R466 33K
C466 1/50
C467 33/4
R467 18K
R470 47K
R471 18K
C473 47P
C474 2200
R475 27K
R431 1K
R432 1K
C431 6800
C432 4700
R433 2.2K
C433 47/6.3
C434 4700
R434 15K
R435 2.2K
C435 0.01
C436 0.01
C437 0.01
C438 220
C439 0.47
R436 2.7K
R437
C440 1500
C441 220
C442 2200
C443 3900
R439 4.7K
R440 4.7K
R441 10K
C444 0.01
R442 820F
R443 820F
C445 5P
C446 100/6.3
C447 100/6.3
R444 22K
C448 4.7/35
C449 470
R445 820
R446 270
R447 1K
R448 10K
C450 1/50
R449 1.5K
R450 22K
R451 10K
C451 2.2/50
R452 470
R453 120
C452 100P
R454 8.2K
R455 10K
R456 22
C453 100P
C454 100/6.3
C455 5P
C456 220P
R457 12K
R458 3.9K
R459 2.2K
R460 680
R461 2.7K
R462 3.3K
R463 3.3K
C457 4700
C458 0.039
C459 680P
C460 8200
C461 10/6.3
C462 1/50
C463 10/6.3
C464 22/6.3
C465 2.2/6.3
R465 2.7K
R464 10K

RED ———— PB PROECSS
- - - - - - - - REC PROCESS



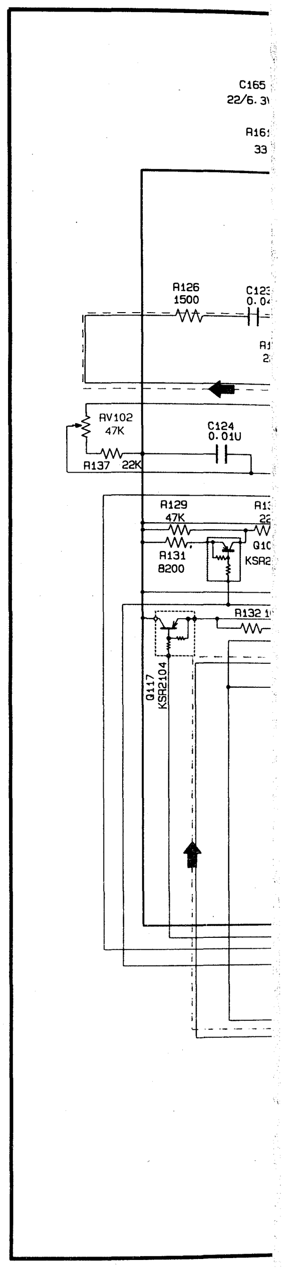
TP431
CARR FREQ. (REC MODE)
50mV/0.5us, 1.5Vp-p (1.5MHz)

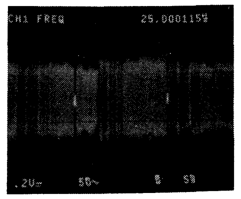
SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

IC 431 (CXA1237)		
PIN NO	PLAY BACK	RECORD
1	2.0V	1.7V
2	2.0V	1.7V
3	2.6V	2.5V
4	3.7V	0.0V
5	2.5V	0.0V
6	4.5V	0.0V
7	2.6V	2.3V
8	2.6V	2.3V
9	2.6V	2.3V
10	3.3V	3.0V
11	5.0V	0.0V
12	2.3V	2.2V
13	3.6V	3.4V
14	0.0V	0.0V
15	0.0V	0.0V
16	2.5V	2.3V
17	0.0V	0.0V
18	4.2V	4.1V
19	0.0V	0.0V
20	4.2V	4.1V
21	4.5V	4.5V
22	5.0V	5.0V
23	2.1V	2.0V
24	1.3V	2.8V
25	2.4V	2.4V
26	2.4V	2.4V
27	2.4V	2.4V
28	2.4V	2.4V
29	2.3V	2.3V
30	2.4V	2.4V
31	1.5V	1.5V
32	2.8V	2.8V
33	2.2V	2.2V
34	2.4V	2.4V
35	2.3V	2.3V
36	2.4V	2.4V
37	1.1V	1.1V
38	2.4V	2.4V
39	2.2V	2.2V
40	2.4V	2.4V
41	2.4V	2.4V
42	0.0V	2.3V
43	0.0V	0.0V
44	3.3V	2.3V
45	0.4V	0.4V
46	2.4V	2.4V
47	2.5V	2.3V
48	3.3V	0.0V

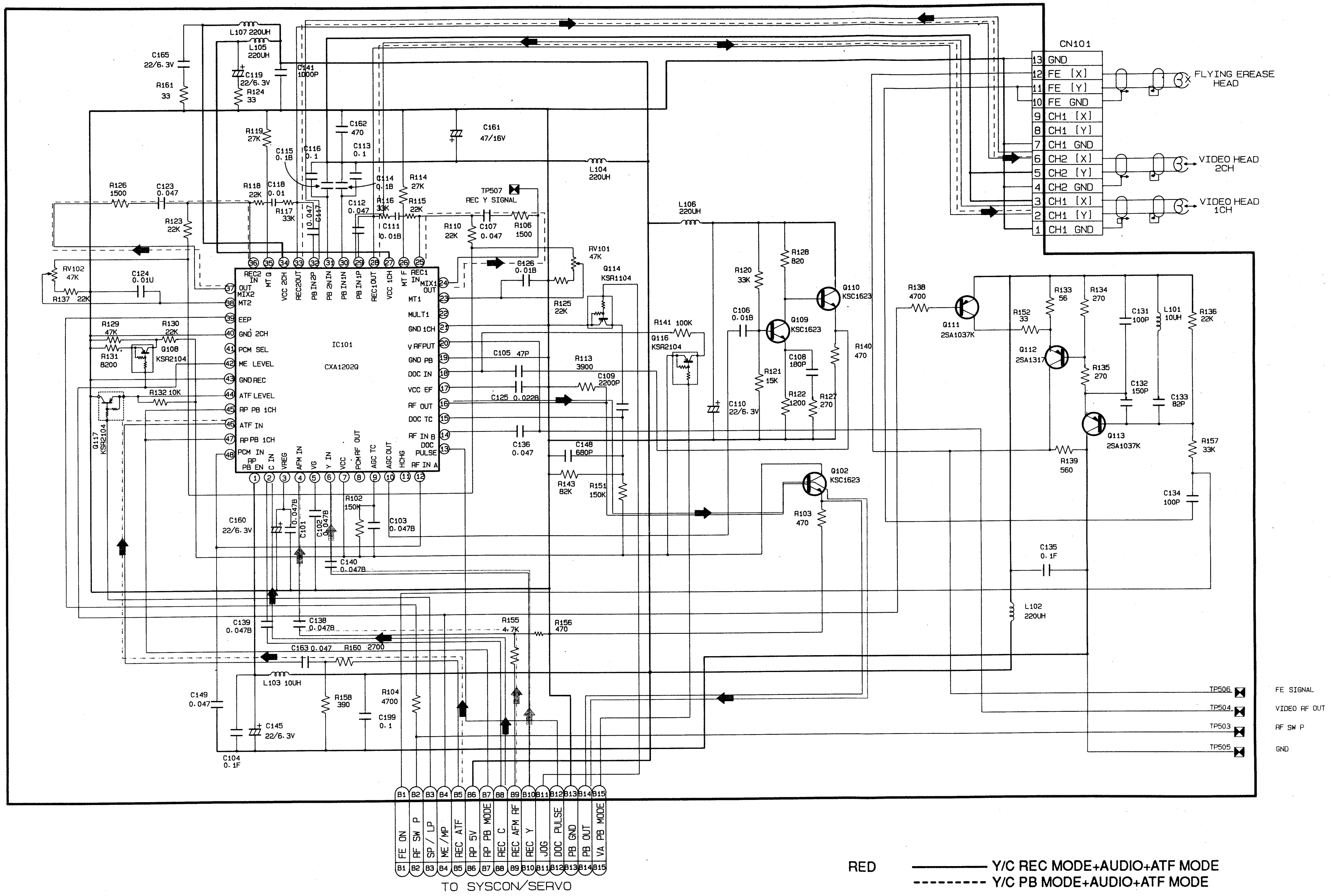
11-1-6. Pre-A


C165
22/6.3
R16
33
R126
1500
C12
0.0
RV102
47K
C124
0.01U
R137 22K
R129
47K
R131
8200
Q1
KSR
R132
Q117
KSR2104



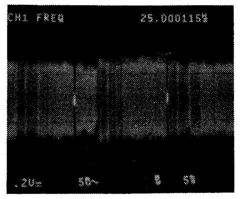
TP504
ENV (PB MODE)
50mV/5ms, 200mVp-p

11-1-6. Pre-Amp

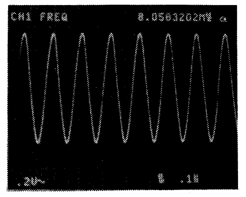

L107 220UH
L105 220UH
C165 22/6.3V
R161 33
C119 22/6.3V
R124 33
C141 1000P
C162 470
C161 47/16V
R119 27K
C115 0.1B
C116 0.1
C113 0.1
L104 220UH
R126 1500
C123 0.047
R118 22K
C118 0.01
R117 33K
C147 0.047
C112 0.047
C114 0.1B
R114 27K
R116 33K
R115 22K
C111 0.01B
TP507
REC Y SIGNAL
R110 22K
C107 0.047
R106 1500
R123 22K
RV102 47K
R137 22K
C124 0.01U
R126 0.01B
RV101 47K
Q114 KSR1104
L106 220UH
R128 820
R120 33K
C106 0.01B
Q110 KSC1623
Q109 KSC1623
R141 100K
Q116 KSR2104
R140 470
C108 180P
R121 15K
R122 1200
R127 270
C110 22/6.3V
R129 47K
R130 22K
R131 8200
Q108 KSR2104
R132 10K
Q117 KSR2104
IC101
CXA1202Q
REC2 IN
MT Q
VCC 2CH
REC2OUT
PB IN 2P
PB 2N IN
PB IN 1N
PB IN 1P
REC1OUT
VCC 1CH
MT F
REC1 IN
MIX1 OUT
OUT MIX2
MT2
EEP
GND 2CH
PCM SEL
ME LEVEL
GND REC
ATF LEVEL
RP PB 1CH
ATF IN
RP PB 1CH
PCM IN
RP PB EN
C IN
VREG
AFM IN
VG
Y IN
VCC
PCM RF OUT
AGC TC
AGC OUT
HCHG
RF IN A
DOC PULSE
RF IN B
DOC TC
RF OUT
VCC EF
DOC IN
GND PB
V RFPUT
GND 1CH
MULT1
MT1
C105 47P
R113 3900
C109 2200P
C125 0.022B
R125 22K
C136 0.047
C148 680P
R143 82K
R151 150K
Q102 KSC1623
R103 470
C160 22/6.3V
C101 0.047B
C102 0.047B
R102 150K
C103 0.047B
C140 0.047B
C139 0.047B
C138 0.047B
C163 0.047
R160 2700
R155 4.7K
R156 470
L103 10UH
C149 0.047
R158 390
R104 4700
C199 0.1
C145 22/6.3V
C104 0.1F
R138 4700
Q111 2SA1037K
R152 33
R133 56
R134 270
C131 100P
L101 10UH
R136 22K
Q112 2SA1317
R135 270
C132 150P
C133 82P
Q113 2SA1037K
R157 33K
R139 560
C134 100P
C135 0.1F
L102 220UH
CN101
13 GND
12 FE (X)
11 FE (Y)
10 FE GND
9 CH1 (X)
8 CH1 (Y)
7 CH1 GND
6 CH2 (X)
5 CH2 (Y)
4 CH2 GND
3 CH1 (X)
2 CH1 (Y)
1 CH1 GND
FLYING EREASE HEAD
VIDEO HEAD 2CH
VIDEO HEAD 1CH
TP506 FE SIGNAL
TP504 VIDEO RF OUT
TP503 RF SW P
TP505 GND
B1 FE ON
B2 RF SW P
B3 SP / LP
B4 ME /MP
B5 REC ATF
B6 RP 5V
B7 RP PB MODE
B8 REC C
B9 REC AFM RF
B10 REC Y
B11 JOG
B12 DOC PULSE
B13 PB GND
B14 PB OUT
B15 VA PB MODE
TO SYSCON/SERVO

IC 101 (CXA1202)		
PIN NO	PLAY BACK	RECORD
1	5.0V	5.0V
2	0.0V	3.4V
3	4.4V	4.4V
4	0.0V	3.4V
5	2.7V	2.7V
6	0.0V	3.4V
7	5.0V	5.0V
8	1.9V	2.3V
9	4.5V	5.0V
10	2.6V	4.0V
11	0.0V	3.1V
12	2.7V	0.0V
13	0.0V	2.8V
14	2.8V	2.0V
15	2.8V	1.4V
16	2.6V	5.0V
17	5.3V	5.0V
18	2.7V	0.0V
19	0.0V	2.3V
20	2.0V	0.0V
21	0.0V	0.0V
22	0.0V	3.3V
23	3.4V	2.7V
24	2.8V	2.0V
25	2.1V	0.0V
26	2.8V	5.0V
27	5.0V	4.9V
28	5.0V	2.7V
29	2.4V	4.4V
30	2.5V	4.4V
31	2.5V	2.7V
32	2.5V	4.9V
33	5.0V	5.0V
34	5.0V	5.0V
35	2.8V	0.0V
36	2.2V	2.0V
37	2.8V	2.7V
38	3.5V	3.5V
39	2.6V	2.6V
40	0.0V	0.0V
41	0.0V	0.0V
42	3.7V	3.6V
43	0.0V	0.0V
44	5.0V	5.0V
45	4.0V	0.0V
46	2.7V	2.8V
47	3.9V	0.0V
48	2.7V	3.1V

RED	————	Y/C REC MODE+AUDIO+ATF MODE
	- - - - - -	Y/C PB MODE+AUDIO+ATF MODE
BLUE	————	REC Y PROCESS
	- - - - - -	REC AUDIO PROCESS
GREEN	————	REC C PROCESS
	- - - - - -	REC ATF SIGNAL

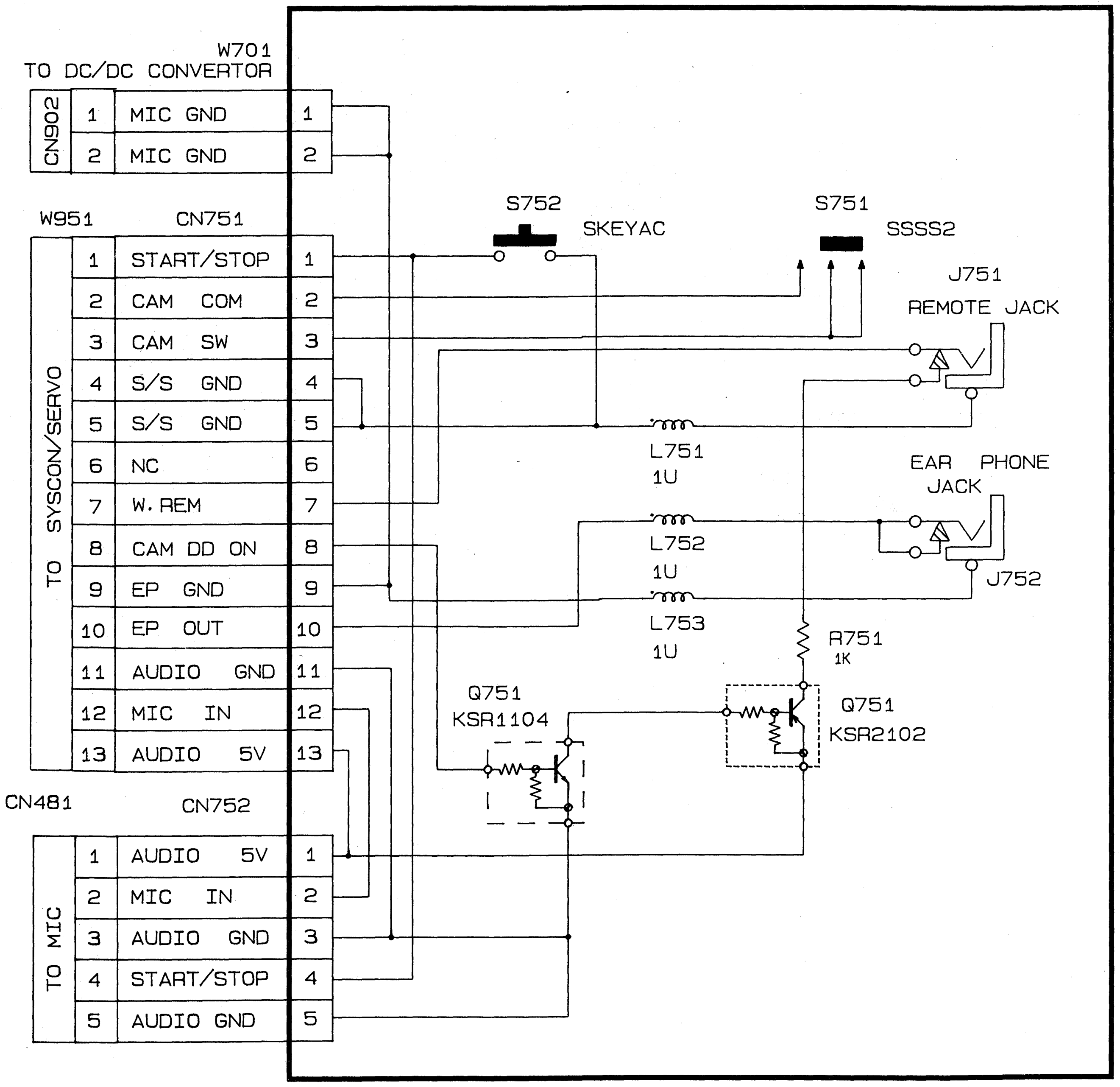


TP504
ENV (PB MODE)
50mV/5ms, 200mVp-p

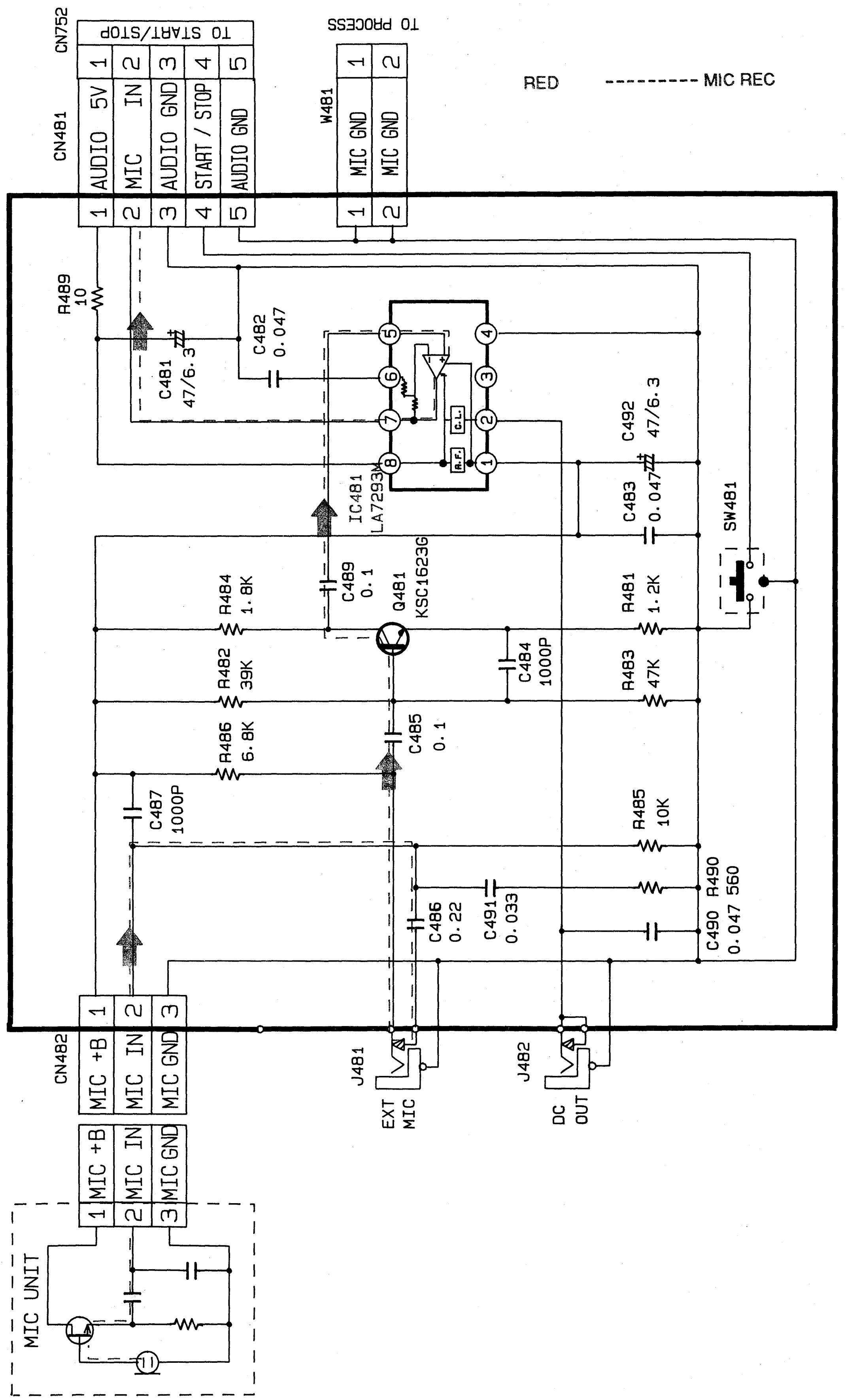


TP506
FE (REC MODE)
0.2V/0.1us, 0.87Vp-p(8MHz)

11-1-7. Start/Stop


W701
TO DC/DC CONVERTOR
CN902
1 MIC GND 1
2 MIC GND 2
W951
CN751
TO SYSCON/SERVO
1 START/STOP 1
2 CAM COM 2
3 CAM SW 3
4 S/S GND 4
5 S/S GND 5
6 NC 6
7 W. REM 7
8 CAM DD ON 8
9 EP GND 9
10 EP OUT 10
11 AUDIO GND 11
12 MIC IN 12
13 AUDIO 5V 13
CN481
CN752
TO MIC
1 AUDIO 5V 1
2 MIC IN 2
3 AUDIO GND 3
4 START/STOP 4
5 AUDIO GND 5
S752
SKEYAC
S751
SSSS2
J751
REMOTE JACK
EAR PHONE
JACK
J752
L751
1U
L752
1U
L753
1U
R751
1K
Q751
KSR1104
Q751
KSR2102

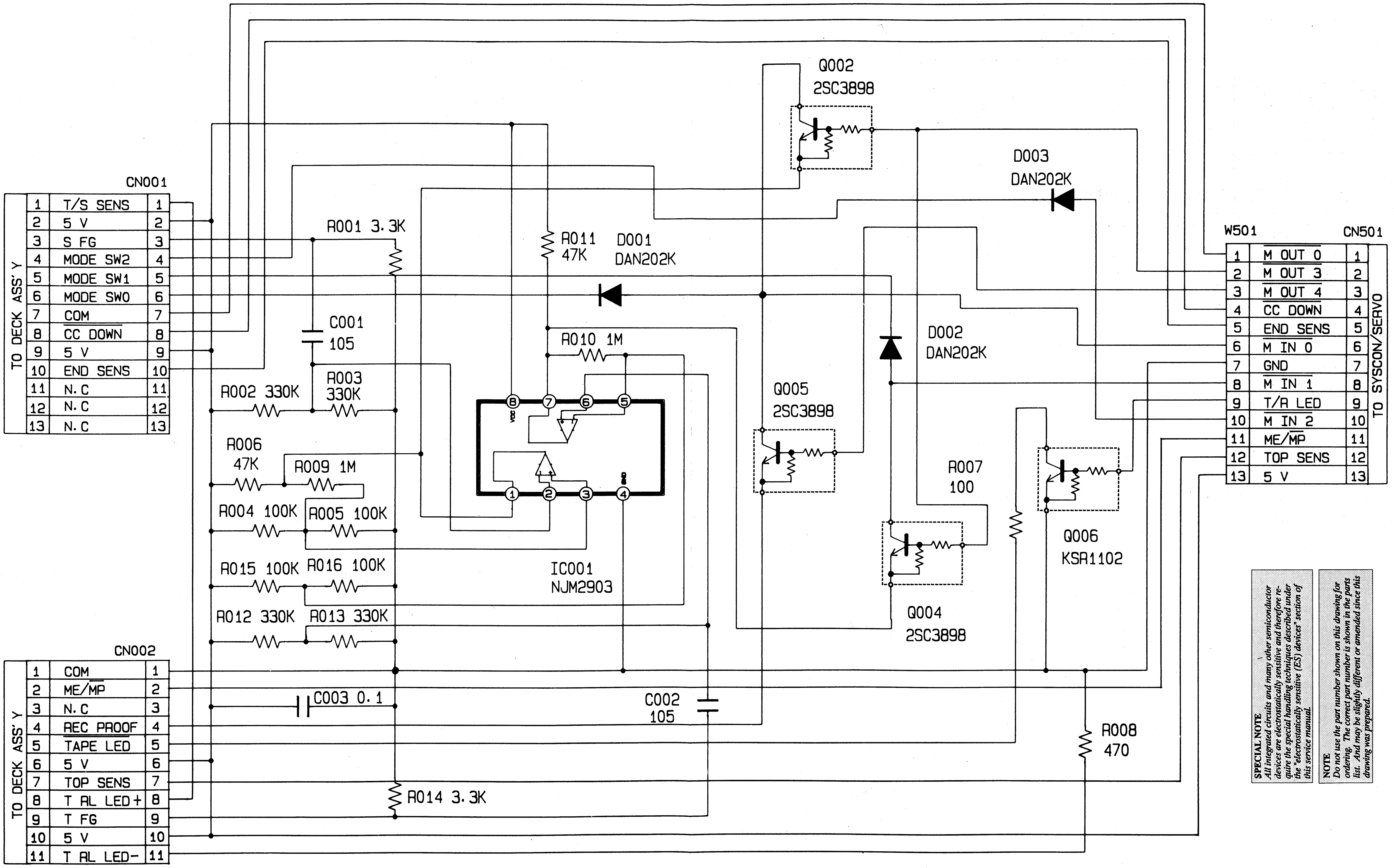
11-1-8. MIC


CN752
TO START/STOP
CN481
1 AUDIO 5V
2 MIC IN
3 AUDIO GND
4 START / STOP
5 AUDIO GND
TO PROCESS
W481
1 MIC GND
2 MIC GND
RED
MIC REC
R489
10
C481
47/6.3
C482
0.047
IC481
LA7293N
E.L.
R.F.
C489
0.1
Q481
KSC1623G
R484
1.8K
R482
39K
R486
6.8K
C485
0.1
C484
1000P
C487
1000P
C492
47/6.3
C483
0.047
SW481
R481
1.2K
R483
47K
R485
10K
C490 0.047
R490 560
C486
0.22
C491
0.033
CN482
1 MIC +B
2 MIC IN
3 MIC GND
J481
EXT
MIC
J482
DC
OUT
MIC UNIT
1 MIC +B
2 MIC IN
3 MIC GND

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

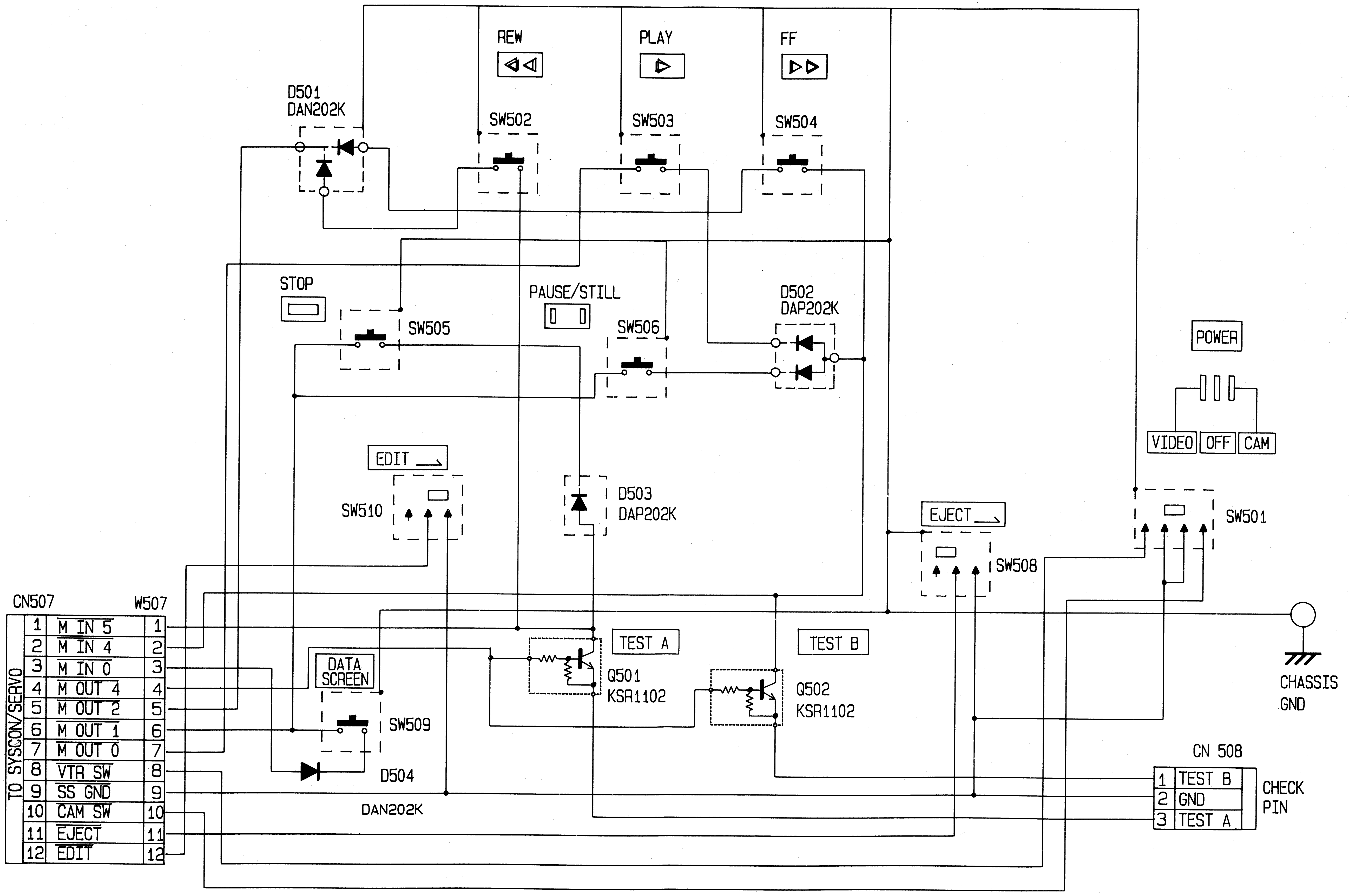
11-1-9. Deck


CN001
TO DECK ASS'Y
1 T/S SENS 1
2 5 V 2
3 S FG 3
4 MODE SW2 4
5 MODE SW1 5
6 MODE SW0 6
7 COM 7
8 CC DOWN 8
9 5 V 9
10 END SENS 10
11 N.C 11
12 N.C 12
13 N.C 13
CN002
TO DECK ASS'Y
1 COM 1
2 ME/MP 2
3 N.C 3
4 REC PROOF 4
5 TAPE LED 5
6 5 V 6
7 TOP SENS 7
8 T AL LED+ 8
9 T FG 9
10 5 V 10
11 T AL LED- 11
R001 3.3K
C001 105
R002 330K
R003 330K
R006 47K
R009 1M
R004 100K
R005 100K
R015 100K
R016 100K
R012 330K
R013 330K
C003 0.1
R014 3.3K
R011 47K
D001 DAN202K
R010 1M
IC001 NJM2903
C002 105
Q002 2SC3898
D003 DAN202K
D002 DAN202K
Q005 2SC3898
R007 100
Q004 2SC3898
Q006 KSR1102
R008 470
W501
CN501
TO SYSCON/SERVO
1 M OUT 0 1
2 M OUT 3 2
3 M OUT 4 3
4 CC DOWN 4
5 END SENS 5
6 M IN 0 6
7 GND 7
8 M IN 1 8
9 T/R LED 9
10 M IN 2 10
11 ME/MP 11
12 TOP SENS 12
13 5 V 13

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

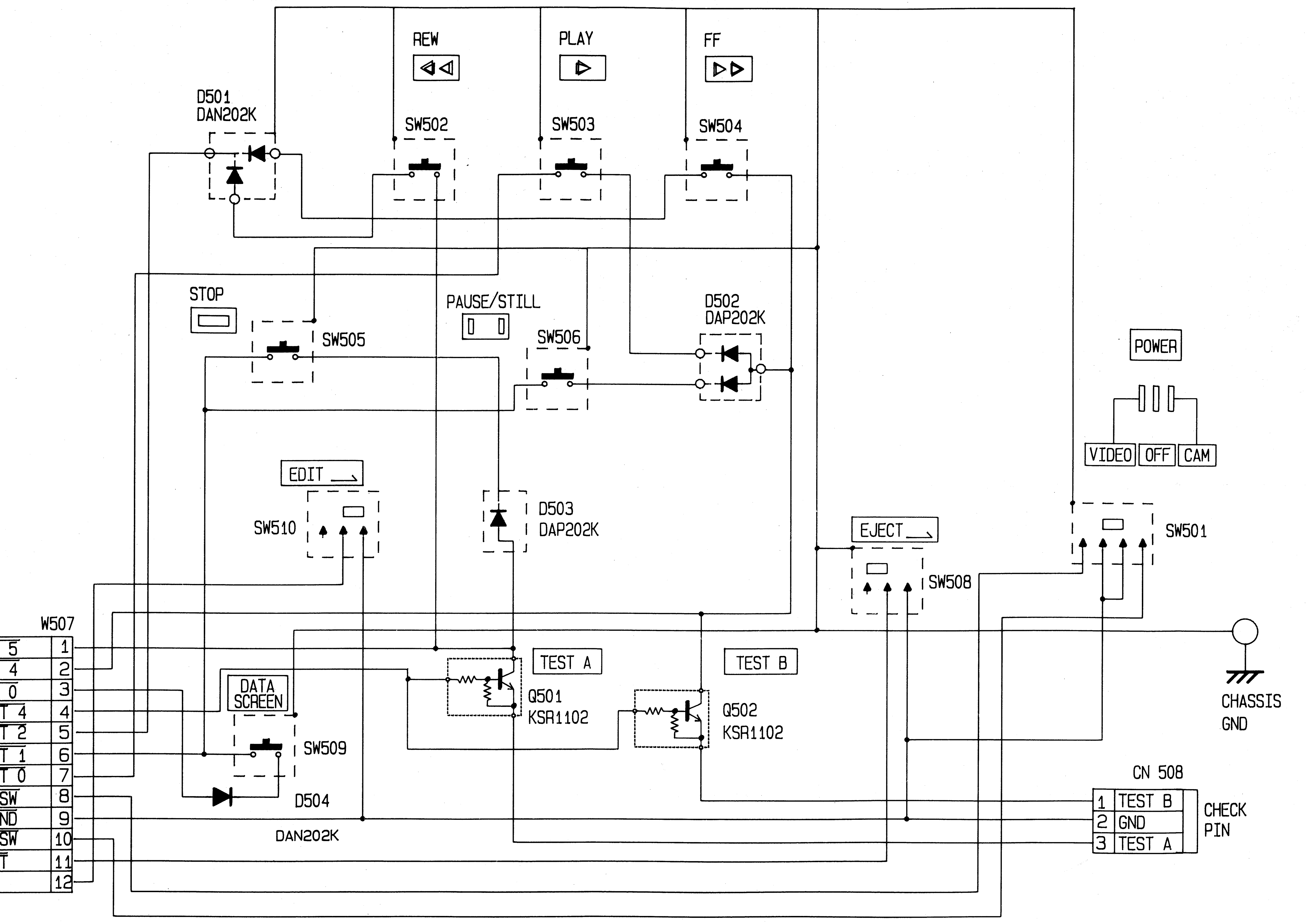
11-1-10. VTR Function


REW
PLAY
FF
D501
DAN202K
SW502
SW503
SW504
STOP
SW505
PAUSE/STILL
SW506
D502
DAP202K
POWER
VIDEO
OFF
CAM
EDIT
SW510
D503
DAP202K
EJECT
SW508
SW501
CN507
W507
1 M IN 5
2 M IN 4
3 M IN 0
4 M OUT 4
5 M OUT 2
6 M OUT 1
7 M OUT 0
8 VTR SW
9 SS GND
10 CAM SW
11 EJECT
12 EDIT
TO SYSCON/SERVO
DATA SCREEN
SW509
TEST A
Q501
KSR1102
TEST B
Q502
KSR1102
D504
DAN202K
CHASSIS GND
CN 508
1 TEST B
2 GND
3 TEST A
CHECK PIN

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

VTR Function

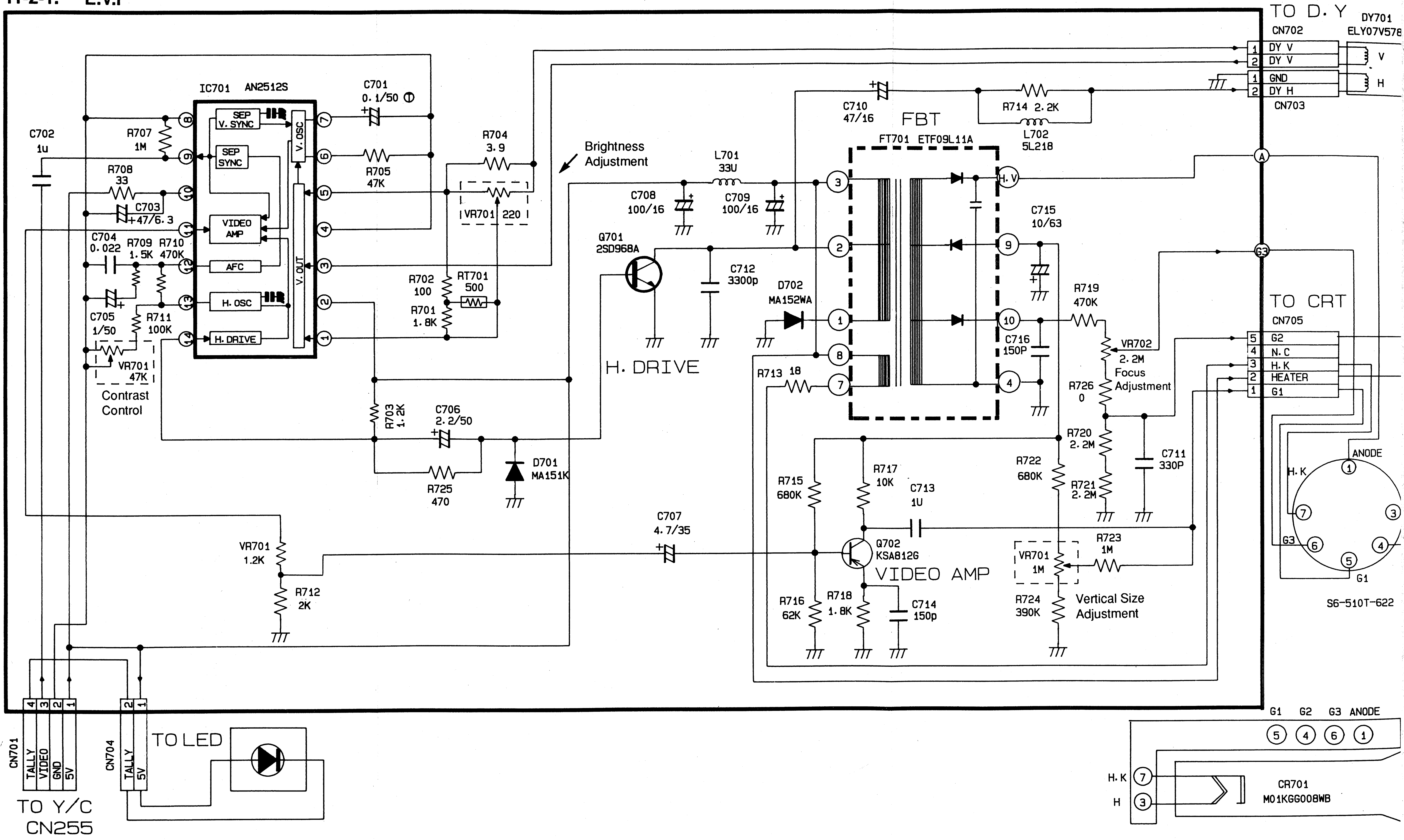

REW
PLAY
FF
D501
DAN202K
SW502
SW503
SW504
STOP
SW505
PAUSE/STILL
SW506
D502
DAP202K
POWER
VIDEO
OFF
CAM
EDIT
SW510
D503
DAP202K
EJECT
SW508
SW501
W507
5
4
0
T 4
T 2
T 1
T 0
SW
ND
SW
T
1
2
3
4
5
6
7
8
9
10
11
12
DATA SCREEN
SW509
D504
DAN202K
TEST A
Q501
KSR1102
TEST B
Q502
KSR1102
CHASSIS GND
CN 508
1 TEST B
2 GND
3 TEST A
CHECK PIN

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

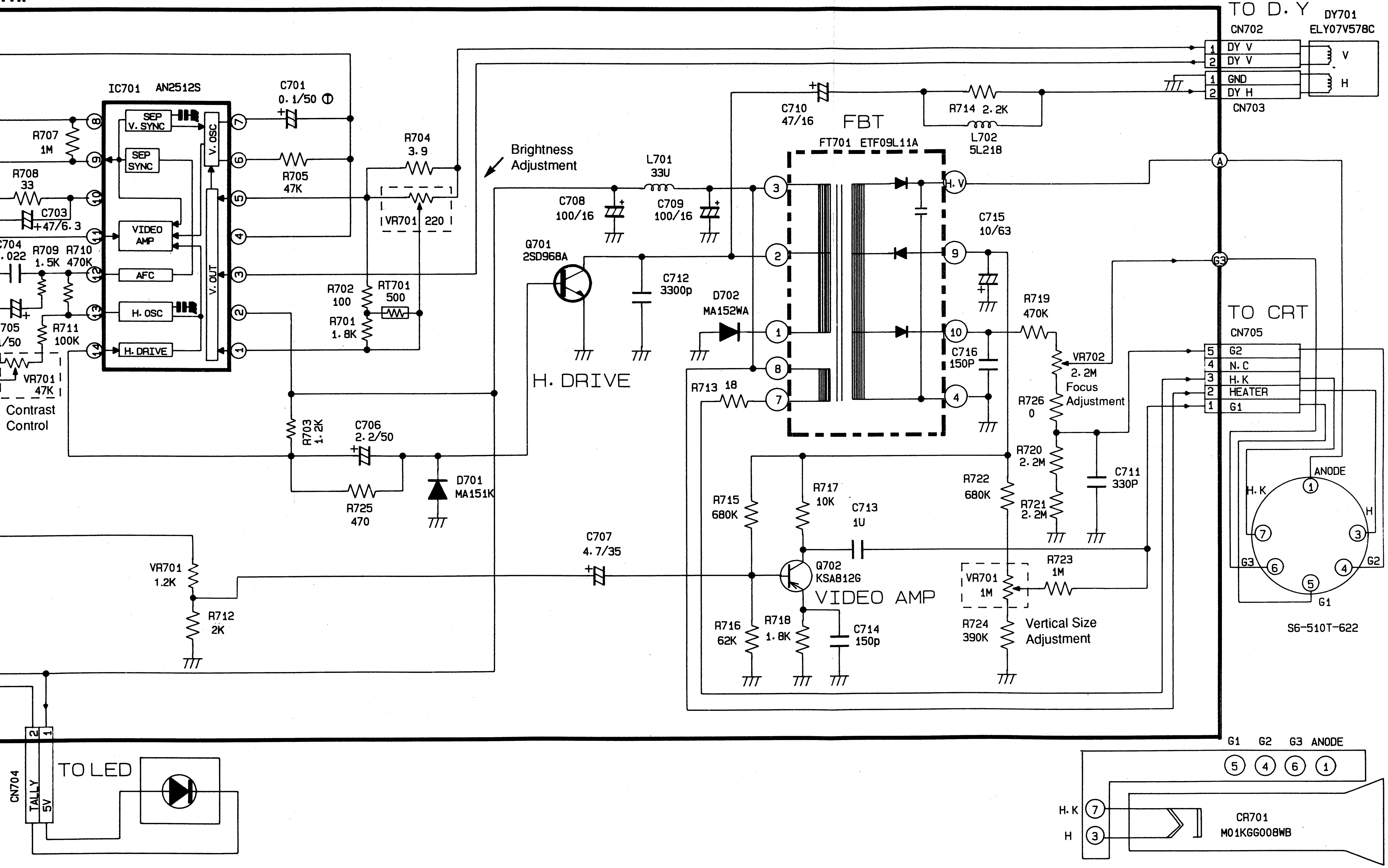
11-2. CAMERA SECTION

11-2-1. E.V.F


IC701 AN2512S
SEP V. SYNC
SEP SYNC
V. OSC
VIDEO AMP
AFC
V. OUT
H. OSC
H. DRIVE
C701 0.1/50
C702 1u
R707 1M
R708 33
C703 47/6.3
C704 0.022
R709 1.5K
R710 470K
C705 1/50
R711 100K
VR701 47K
Contrast Control
R705 47K
R704 3.9
VR701 220
Brightness Adjustment
R702 100
RT701 500
R701 1.8K
R703 1.2K
C706 2.2/50
R725 470
D701 MA151K
VR701 1.2K
R712 2K
C707 4.7/35
Q701 2SD968A
H. DRIVE
C708 100/16
L701 33U
C709 100/16
C712 3300p
D702 MA152WA
C710 47/16
FBT
FT701 ETF09L11A
R714 2.2K
L702 5L218
R713 18
C715 10/63
C716 150P
R719 470K
VR702 2.2M
Focus Adjustment
R726 0
R720 2.2M
R721 2.2M
C711 330P
R722 680K
R715 680K
R716 62K
R717 10K
C713 1U
Q702 KSA812G
VIDEO AMP
R718 1.8K
C714 150p
VR701 1M
R723 1M
R724 390K
Vertical Size Adjustment
TO D.Y
CN702
DY701 ELY07V578
DY V
DY V
GND
DY H
CN703
V
H
H.V
A
G3
TO CRT
CN705
G2
N.C
H.K
HEATER
G1
ANODE
H.K
G3
G1
S6-510T-622
G1 G2 G3 ANODE
H.K
H
CR701 M01KGG008WB
CN701
TALLY
VIDEO
GND
5V
CN704
TALLY
5V
TO LED
TO Y/C CN255

CAMERA SECTION

.V.F


IC701 AN2512S
SEP V. SYNC
SEP SYNC
VIDEO AMP
AFC
H. OSC
H. DRIVE
V. OSC
V. OUT
R707 1M
R708 33
C703 47/6.3
C704 .022
R709 1.5K
R710 470K
705 /50
R711 100K
VR701 47K
Contrast Control
C701 0.1/50
R705 47K
R704 3.9
VR701 220
R702 100
RT701 500
R701 1.8K
R703 1.2K
C706 2.2/50
R725 470
D701 MA151K
VR701 1.2K
R712 2K
C707 4.7/35
Brightness Adjustment
L701 33U
C708 100/16
C709 100/16
Q701 2SD968A
C712 3300p
H. DRIVE
D702 MA152WA
R713 18
C710 47/16
FBT
FT701 ETF09L11A
R714 2.2K
L702 5L218
H. V
C715 10/63
R719 470K
VR702 2.2M
Focus Adjustment
R726 0
C716 150P
R720 2.2M
R721 2.2M
C711 330P
R722 680K
R715 680K
R717 10K
C713 1U
Q702 KSA812G
VIDEO AMP
VR701 1M
R723 1M
R716 62K
R718 1.8K
C714 150p
R724 390K
Vertical Size Adjustment
TO D. Y
CN702
DY701 ELY07V578C
DY V
DY V
GND
DY H
CN703
V
H
A
G3
TO CRT
CN705
G2
N.C
H.K
HEATER
G1
ANODE
H.K
H
G3
G2
G1
S6-510T-622
G1 G2 G3 ANODE
H.K
H
CR701 M01KGG008WB
CN704
TALLY
5V
TO LED

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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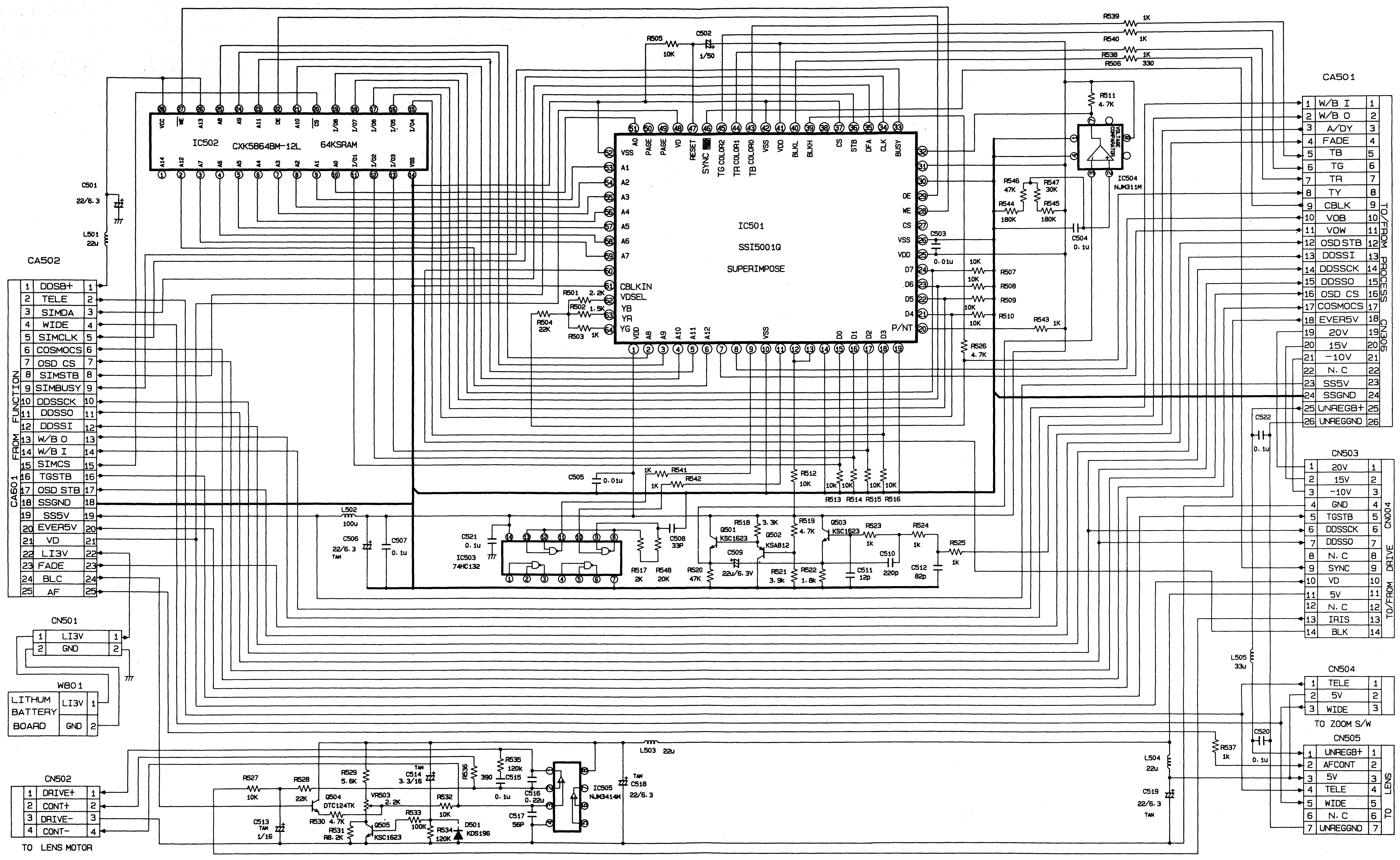
11-2-2. Digital


IC502 CXK5864BM-12L 64KSRAM
VCC
WE
A13
A8
A9
A11
OE
A10
CS
I/08
I/07
I/06
I/05
I/04
A14
A12
A7
A6
A5
A4
A3
A2
A1
A0
I/01
I/02
I/03
VSS
IC501
SSI5001Q
SUPERIMPOSE
PAGE
VD
RESET
SYNC
TG COLOR2
TR COLOR1
TB COLOR0
VDD
BLKL
BLKH
CS
STB
DFA
CLK
BUSY
OE
WE
VSS
VDD
D7
D6
D5
D4
P/NT
CBLKIN
VDSEL
YB
YR
YG
A8
A9
A10
A11
A12
D0
D1
D2
D3
R505 10K
C502 1/50
R539 1K
R540 1K
R538 1K
R506 330
R511 4.7K
IC504 NJM311M
VOLTAGE COMPARATOR
R546 47K
R547 30K
R544 180K
R545 180K
C504 0.1u
C503 0.01u
R507 10K
R508 10K
R509 10K
R510 10K
R543 1K
R526 4.7K
R501 2.2K
R502 1.5K
R503 1K
R504 22K
C501 22/6.3
L501 22u
C505 0.01u
R541 1K
R542 1K
R512 10K
R513 10K
R514 10K
R515 10K
R516 10K
L502 100u
C506 22/6.3 TAN
C507 0.1u
C521 0.1u
IC503 74HC132
C508 33P
R517 2K
R548 20K
R520 47K
Q501 KSC1623
R518 3.3K
Q502 KSA812
R519 4.7K
Q503 KSC1623
C509 22u/6.3V
R521 3.9K
R522 1.8K
C511 12p
R523 1K
C510 220p
R524 1K
C512 82p
R525 1K
CA502
1 DDSB+ 1
2 TELE 2
3 SIMDA 3
4 WIDE 4
5 SIMCLK 5
6 COSMOCS 6
7 OSD CS 7
8 SIMSTB 8
9 SIMBUSY 9
10 DDSSCK 10
11 DDSSO 11
12 DDSSI 12
13 W/B O 13
14 W/B I 14
15 SIMCS 15
16 TGSTB 16
17 OSD STB 17
18 SSGND 18
19 SS5V 19
20 EVER5V 20
21 VD 21
22 LI3V 22
23 FADE 23
24 BLC 24
25 AF 25
CA601 FROM FUNCTION
CN501
1 LI3V 1
2 GND 2
W801
LITHIUM BATTERY BOARD
LI3V 1
GND 2
CN502
1 DRIVE+ 1
2 CONT+ 2
3 DRIVE- 3
4 CONT- 4
TO LENS MOTOR
R527 10K
R528 22K
Q504 DTC124TK
R529 5.6K
VR503 2.2K
C514 3.3/16 TAN
R536 390
R535 120K
C515 0.1u
C516 0.22u
C517 56P
R530 4.7K
R531 R8.2K
Q505 KSC1623
R533 100K
R532 10K
R534 120K
D501 KDS196
C513 TAN 1/16
IC505 NJM3414M
L503 22u
C518 TAN 22/6.3
L504 22u
C519 22/6.3 TAN
R537 1K
C520 0.1u
L505 33u
C522 0.1u
CA501
1 W/B I 1
2 W/B O 2
3 A/DY 3
4 FADE 4
5 TB 5
6 TG 6
7 TR 7
8 TY 8
9 CBLK 9
10 VOB 10
11 VOW 11
12 OSD STB 12
13 DDSSI 13
14 DDSSCK 14
15 DDSSO 15
16 OSD CS 16
17 COSMOCS 17
18 EVER5V 18
19 20V 19
20 15V 20
21 -10V 21
22 N.C 22
23 SS5V 23
24 SSGND 24
25 UNREGB+ 25
26 UNREGGND 26
TO/FROM PROCESS CN306
CN503
1 20V 1
2 15V 2
3 -10V 3
4 GND 4
5 TGSTB 5
6 DDSSCK 6
7 DDSSO 7
8 N.C 8
9 SYNC 9
10 VD 10
11 5V 11
12 N.C 12
13 IRIS 13
14 BLK 14
TO/FROM DRIVE CN004
CN504
1 TELE 1
2 5V 2
3 WIDE 3
TO ZOOM S/W
CN505
1 UNREGB+ 1
2 AFCONT 2
3 5V 3
4 TELE 4
5 WIDE 5
6 N.C 6
7 UNREGGND 7
TO LENS

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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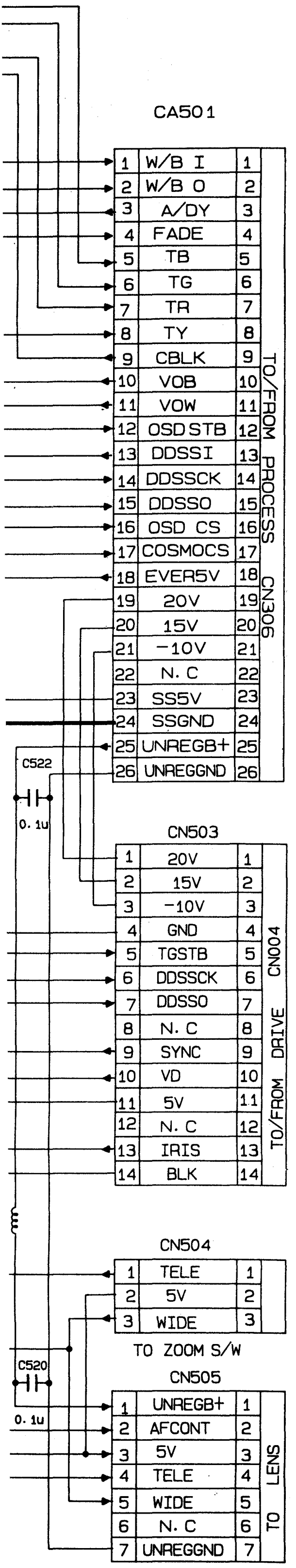

CA501
1 W/B I 1
2 W/B O 2
3 A/DY 3
4 FADE 4
5 TB 5
6 TG 6
7 TR 7
8 TY 8
9 CBLK 9
10 VOB 10
11 VOW 11
12 OSDSTB 12
13 DDSSI 13
14 DDSSCK 14
15 DDSSO 15
16 OSD CS 16
17 COSMOCS 17
18 EVER5V 18
19 20V 19
20 15V 20
21 −10V 21
22 N. C 22
23 SS5V 23
24 SSGND 24
25 UNREGB+ 25
26 UNREGGND 26
TO/FROM PROCESS CN306
C522
0.1u
CN503
1 20V 1
2 15V 2
3 −10V 3
4 GND 4
5 TGSTB 5
6 DDSSCK 6
7 DDSSO 7
8 N. C 8
9 SYNC 9
10 VD 10
11 5V 11
12 N. C 12
13 IRIS 13
14 BLK 14
TO/FROM DRIVE CN004
CN504
1 TELE 1
2 5V 2
3 WIDE 3
TO ZOOM S/W
C520
0.1u
CN505
1 UNREGB+ 1
2 AFCONT 2
3 5V 3
4 TELE 4
5 WIDE 5
6 N. C 6
7 UNREGGND 7
TO LENS

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

IC501	
PIN NO	DC VOLTAGE
1	5.1V
2	0.1V
3	0.1V
4	0.1V
5	0.1V
6	0.1V
7	0.1V
8	0.1V
9	2.5V
10	0.0V
11	4.6V
12	5.1V
13	5.1V
14	0.1V
15	0.1V
16	0.1V
17	0.1V
18	0.1V
19	0.0V
20	5.0V
21	0.1V
22	0.1V
23	0.1V
24	0.1V
25	5.1V
26	5.0V
27	0.0V
28	5.1V
29	5.1V
30	0.1V
31	5.1V
32	2.1V
33	0.1V
34	0.1V
35	0.7V
36	0.1V
37	0.0V
38	0.1V
39	0.1V
40	5.1V
41	5.1V
42	0.0V
43	0.1V
44	0.1V
45	0.1V
46	4.6V
47	0.1V
48	4.9V

IC501	
PIN NO	DC VOLTAGE
49	0.1V
50	0.1V
51	0.1V
52	0.0V
53	0.1V
54	0.4V
55	0.4V
56	0.1V
57	0.1V
58	0.1V
59	0.0V
60	3.2V
61	0.0V
62	0.1V
63	0.1V
64	0.1V

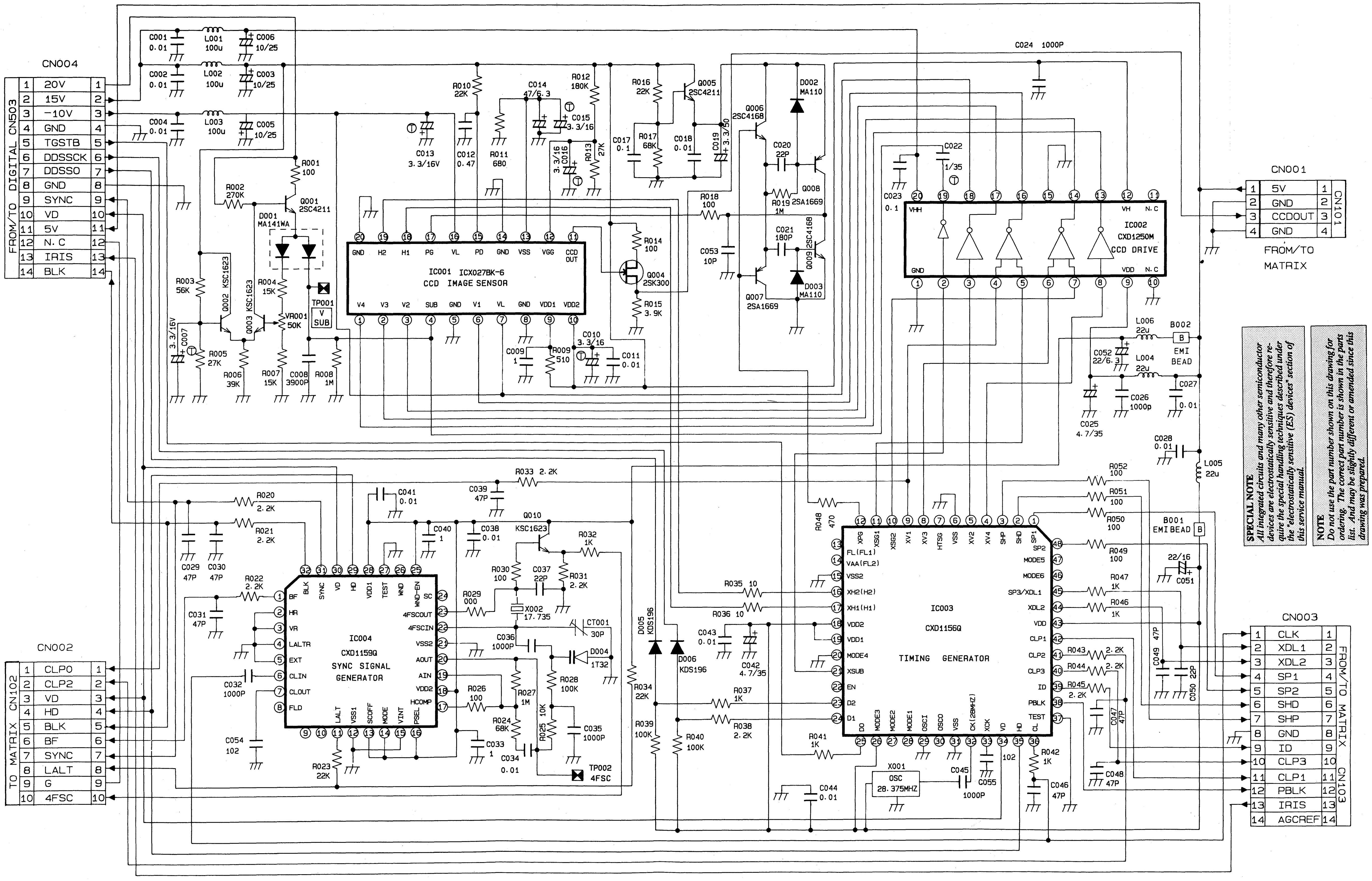
IC502	
PIN NO	DC VOLTAGE
1	0.0V
2	0.1V
3	0.1V
4	0.1V
5	0.1V
6	0.1V
7	0.1V
8	0.1V
9	0.1V
10	0.1V
11	0.1V
12	0.1V
13	0.1V
14	0.0V
15	0.1V
16	0.1V
17	0.1V
18	0.1V
19	0.1V
20	0.1V
21	0.1V
22	5.1V
23	0.1V
24	0.1V
25	0.1V
26	4.9V
27	5.1V
28	4.9V

IC503	
PIN NO	DC VOLTAGE
1	0.1V
2	0.1V
3	5.0V
4	0.1V
5	0.1V
6	5.1V
7	0.0V
8	2.7V
9	2.7V
10	4.6V
11	2.5V
12	2.7V
13	2.7V
14	5.1V

IC504	
PIN NO	DC VOLTAGE
1	0.0V
2	2.5V
3	2.5V
4	0.0V
5	5.0V
6	5.0V
7	3.0V
8	5.0V

IC505	
PIN NO	DC VOLTAGE
1	1.7V
2	3.0V
3	3.0V
4	0.0V
5	1.2V
6	1.2V
7	4.6V
8	5.0V

11-2-3. Drive


CN004
FROM/TO DIGITAL CN503
1 20V 1
2 15V 2
3 −10V 3
4 GND 4
5 TGSTB 5
6 DDSSCK 6
7 DDSSO 7
8 GND 8
9 SYNC 9
10 VD 10
11 5V 11
12 N.C 12
13 IRIS 13
14 BLK 14
C001 0.01
L001 100u
C006 10/25
C002 0.01
L002 100u
C003 10/25
C004 0.01
L003 100u
C005 10/25
R001 100
Q001 2SC4211
R002 270K
D001 MA141WA
R003 56K
Q002 KSC1623
Q003 KSC1623
R004 15K
VR001 50K
TP001 V SUB
C007 3.3/16V
R005 27K
R006 39K
R007 15K
C008 3900P
R008 1M
R010 22K
C013 3.3/16V
C012 0.47
R011 680
C014 47/6.3
C015 3.3/16
R012 180K
C016 3.3/16
R013 27K
IC001 ICX027BK-6
CCD IMAGE SENSOR
GND H2 H1 PG VL PD GND VSS VGG CCD OUT
V4 V3 V2 SUB GND V1 VL GND VDD1 VDD2
C009 1
R009 510
C010 3.3/16
C011 0.01
R014 100
Q004 2SK300
R015 3.9K
R016 22K
Q005 2SC4211
C017 0.1
R017 68K
C018 0.01
C019 3.3/50
Q006 2SC4168
D002 MA110
C020 22P
R018 100
R019 1M
Q008 2SA1669
C021 180P
Q009 2SC4168
C053 10P
Q007 2SA1669
D003 MA110
C024 1000P
C022 1/35
C023 0.1
IC002 CXD1250M
CCD DRIVE
VHH VH N.C GND VDD N.C
CN001
1 5V 1
2 GND 2
3 CCDOUT 3
4 GND 4
CN101
FROM/TO MATRIX
L006 22u
B002 B EMI BEAD
C052 22/6.3
L004 22u
C027 0.01
C025 4.7/35
C026 1000p
C028 0.01
L005 22u
R052 100
R051 100
R050 100
R049 100
R047 1K
R046 1K
B001 EMI BEAD B
C051 22/16
R033 2.2K
R020 2.2K
R021 2.2K
C041 0.01
C039 47P
Q010 KSC1623
C040 1
C038 0.01
R032 1K
C029 47P
C030 47P
R022 2.2K
C031 47P
R029 000
R030 100
C037 22P
R031 2.2K
X002 17.735
CT001 30P
C036 1000P
D004 1T32
IC004 CXD1159Q
SYNC SIGNAL GENERATOR
BF HR VR LALTR EXT CLIN CLOUT FLD
BLK SYNC VD HD VDD1 TEST WND WND-EN
SC 4FSCOUT 4FSCIN VSS2 AOUT AIN VDD2 HCOMP
LALT VSS1 SCOFF MODE VINT PSEL
C032 1000P
R026 100
R027 1M
R028 100K
R024 68K
R025 10K
C035 1000P
C054 102
R023 22K
C033 1
C034 0.01
TP002 4FSC
CN002
TO MATRIX CN102
1 CLP0 1
2 CLP2 2
3 VD 3
4 HD 4
5 BLK 5
6 BF 6
7 SYNC 7
8 LALT 8
9 G 9
10 4FSC 10
D005 KDS196
D006 KDS196
R034 22K
R039 100K
R040 100K
R035 10
R036 10
C043 0.01
C042 4.7/35
R037 1K
R038 2.2K
R048 470
R041 1K
C044 0.01
IC003 CXD1156Q
TIMING GENERATOR
XPG XSG1 XSG2 XV1 XV3 HTSG VSS XV2 XV4 SHP SHD SP1
FL(FL1) VAA(FL2) VSS2 XH2(H2) XH1(H1) VDD2 VDD1 MODE4 XSUB EN D2 D1
SP2 MODE5 MODE6 SP3/XDL1 XDL2 VDD CLP1 CLP2 CLP3 ID PBLK TEST CL
D0 MODE3 MODE2 MODE1 OSCI OSCO VSS CK(28MHZ) XCK VD HD
X001 OSC 28.375MHZ
C045 1000P
C055 102
R042 1K
C046 47P
R043 2.2K
R044 2.2K
R045 2.2K
C049 47P
C050 22P
C047 47P
C048 47P
CN003
1 CLK 1
2 XDL1 2
3 XDL2 3
4 SP1 4
5 SP2 5
6 SHD 6
7 SHP 7
8 GND 8
9 ID 9
10 CLP3 10
11 CLP1 11
12 PBLK 12
13 IRIS 13
14 AGCREF 14
FROM/TO MATRIX CN103

SPECIAL NOTE
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NOTE
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IC001	
PIN NO	DC VOLTAGE
1	−9.8V
2	−9.8V
3	−0.3V
4	11.5V
5	0.0V
6	−0.3V
7	−10.3V
8	0.0V
9	14.9V
10	15.0V
11	11.1V
12	2.0V
13	2.3V
14	0.0V
15	15.0V
16	−10.3V
17	0.9V
18	2.7V
19	2.3V
20	0.0V

IC002	
PIN NO	DC VOLTAGE
1	0.0V
2	5.0V
3	0.2V
4	0.2V
5	5.0V
6	4.7V
7	5.0V
8	4.7V
9	5.0V
10	0.0V
11	0.0V
12	14.9V
13	−9.8V
14	−9.8V
15	0.0V
16	−0.3V
17	−0.2V
18	−10.3V
19	−10.3V
20	0.0V

DRIVE

CN001

1	5V	1	CN101
2	GND	2	
3	CCDOUT	3	
4	GND	4	

FROM/TO MATRIX

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NOTE
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CN003

1	CLK	1	FROM/TO MATRIX CN103
2	XDL1	2	
3	XDL2	3	
4	SP1	4	
5	SP2	5	
6	SHD	6	
7	SHP	7	
8	GND	8	
9	ID	9	
10	CLP3	10	
11	CLP1	11	
12	PBLK	12	
13	IRIS	13	
14	AGCREF	14	

IC001	
PIN NO	DC VOLTAGE
1	-9.8V
2	-9.8V
3	-0.3V
4	11.5V
5	0.0V
6	-0.3V
7	-10.3V
8	0.0V
9	14.9V
10	15.0V
11	11.1V
12	2.0V
13	2.3V
14	0.0V
15	15.0V
16	-10.3V
17	0.9V
18	2.7V
19	2.3V
20	0.0V

IC002	
PIN NO	DC VOLTAGE
1	0.0V
2	5.0V
3	0.2V
4	0.2V
5	5.0V
6	4.7V
7	5.0V
8	4.7V
9	5.0V
10	0.0V
11	0.0V
12	14.9V
13	-9.8V
14	-9.8V
15	0.0V
16	-0.3V
17	-0.2V
18	-10.3V
19	-10.3V
20	0.0V

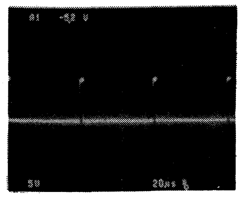
IC003	
PIN NO	DC VOLTAGE
1	0.6V
2	0.5V
3	0.5V
4	4.7V
5	0.2V
6	0.0V
7	0.0V
8	4.7V
9	0.2V
10	5.0V
11	5.0V
12	4.1V
13	4.9V
14	4.9V
15	0.0V
16	0.0V
17	2.7V
18	5.0V
19	5.0V
20	5.0V
21	5.0V
22	5.0V
23	2.5V
24	4.7V
25	0.1V
26	5.0V
27	0.0V
28	0.0V
29	0.0V
30	5.0V
31	0.0V
32	2.2V
33	2.2V
34	4.8V
35	4.5V
36	1.9V
37	0.0V
38	4.1V
39	2.5V
40	0.1V
41	0.2V
42	0.2V
43	4.9V
44	1.9V
45	1.9V
46	0.0V
47	0.0V
48	0.6V

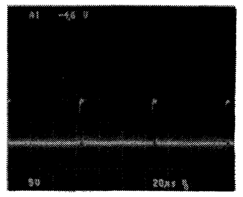
IC004	
PIN NO	DC VOLTAGE
1	4.8V
2	0.0V
3	0.0V
4	0.0V
5	0.0V
6	2.4V
7	2.4V
8	2.4V
9	0.0V
10	0.0V
11	0.0V
12	0.0V
13	5.0V
14	5.0V
15	0.0V
16	5.0V
17	2.5V
18	5.0V
19	2.5V
20	3.2V
21	0.0V
22	2.4V
23	2.4V
24	2.4V
25	5.0V
26	0.0V
27	0.0V
28	5.0V
29	4.5V
30	4.8V
31	4.6V
32	3.7V

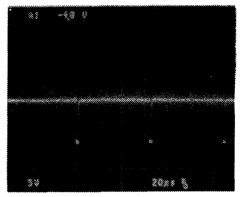
DRIVE

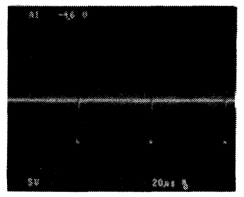
TR NO	EMITTER	BASE	COLLECTOR
Q001	12.6V	13.7V	14.2V
Q002	4.3V	4.9V	15.0V
Q003	4.3V	4.8V	13.7V
Q004	14.7V	12.2V	11.1V
Q005	10.4V	11.0V	15.0V
Q006	4.0V	4.0V	10.4V
Q007	4.0V	4.0V	0.0V
Q008	10.4V	10.4V	0.8V
Q009	0.0V	0.3V	0.8V
Q010	2.0V	1.4V	5.0V

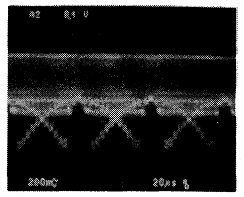
DRIVE

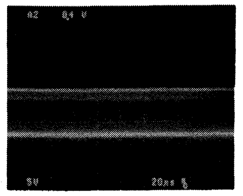

IC001-1
V4
10Vp-p

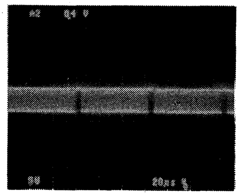

IC001-2
V3
10Vp-p

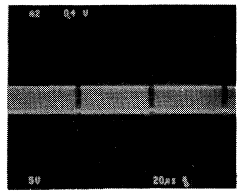

IC001-3
V2
10Vp-p


IC001-6
V1
10Vp-p


IC001-11
CCD OUT
500mVp-p

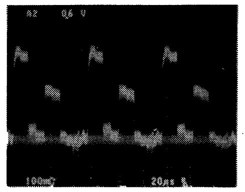

IC001-17
PG
10Vp-p


IC001-18
H1
5Vp-p

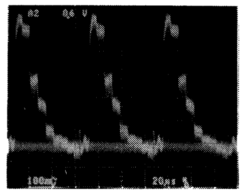

IC001-19
H2
5Vp-p

PROCESS

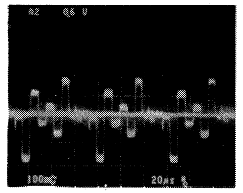
PROCESS



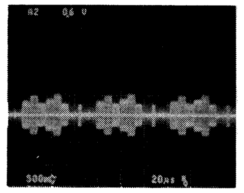
IC301-38
S_1
0.5Vp-p



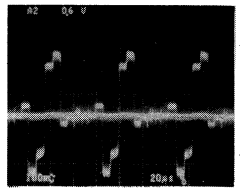
IC301-40
S_2
0.5Vp-p



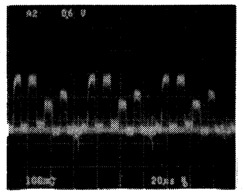
IC302-1
B-Y
0.5Vp-p



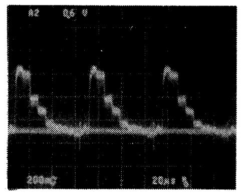
IC302-24
C OUT
1Vp-p



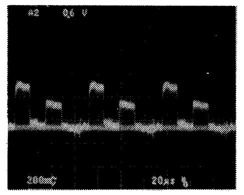
IC302-45
R-Y
0.5Vp-p



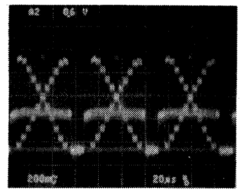
CN301-16
B
0.3Vp-p



CN301-17
G
0.5Vp-p

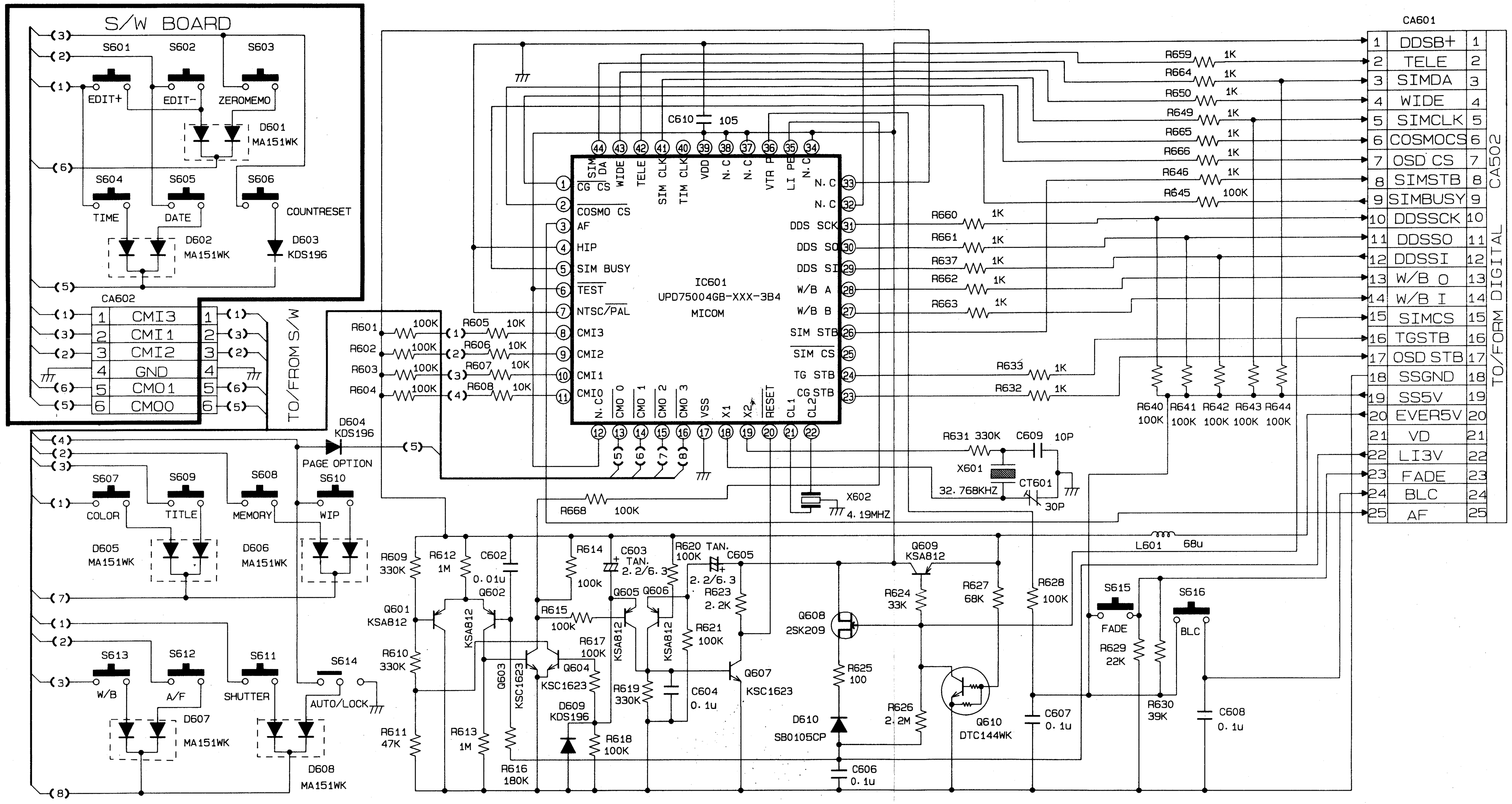


CN301-18
R
0.5Vp-p



CN301-19
Y_H
1Vp-p

11-2-6. CAMERA Function, S/W

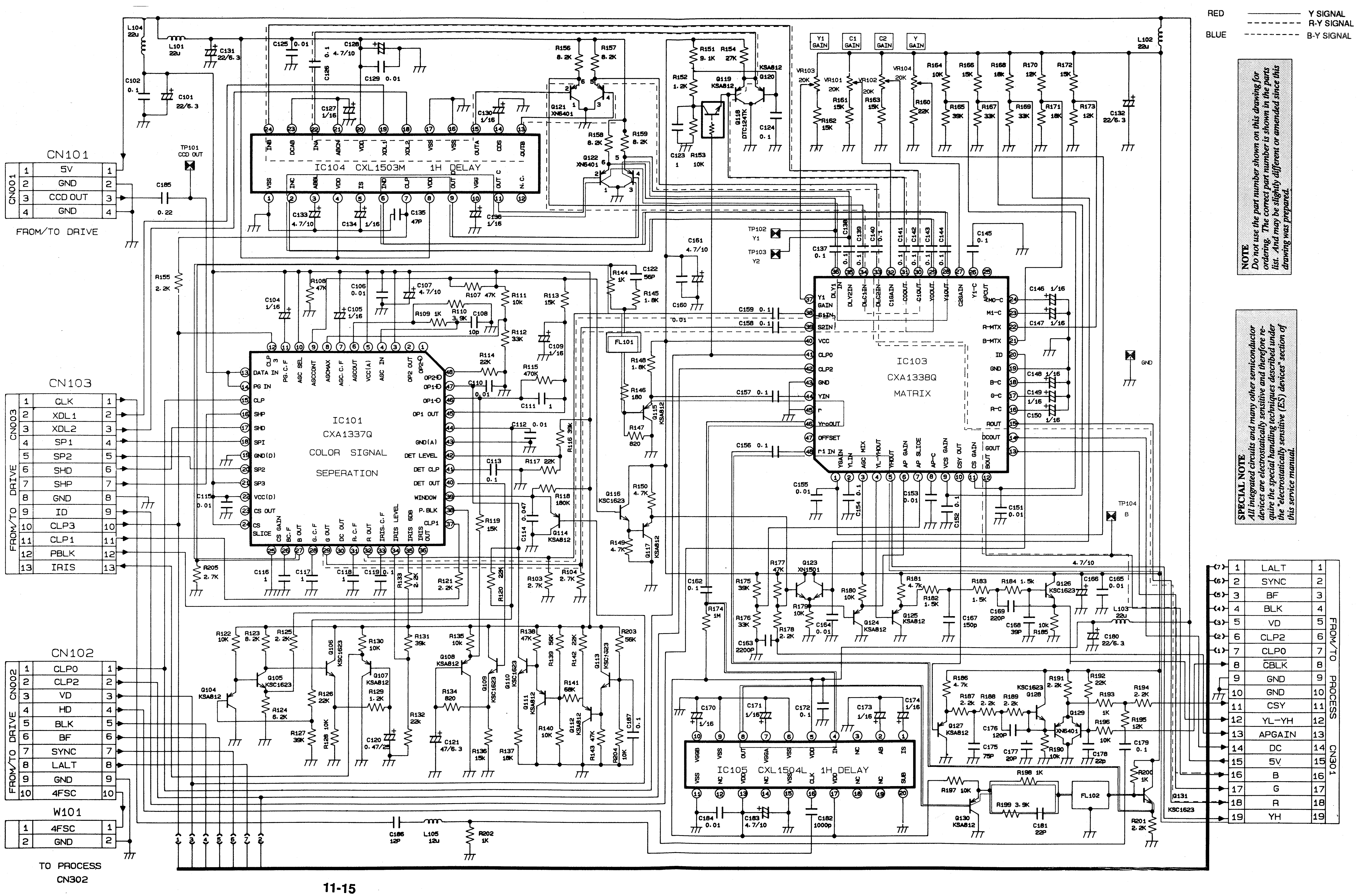

S/W BOARD
S601
S602
S603
EDIT+
EDIT-
ZEROMEMO
D601
MA151WK
S604
S605
S606
TIME
DATE
COUNTRESET
D602
MA151WK
D603
KDS196
CA602
1 CMI3
2 CMI1
3 CMI2
4 GND
5 CMO1
6 CMO0
TO/FROM S/W
R601
R602
R603
R604
100K
R605
R606
R607
R608
10K
D604
KDS196
PAGE OPTION
S607
S609
S608
S610
COLOR
TITLE
MEMORY
WIP
D605
MA151WK
D606
MA151WK
S613
S612
S611
S614
W/B
A/F
SHUTTER
AUTO/LOCK
D607
MA151WK
D608
MA151WK
C610 105
IC601
UPD75004GB-XXX-3B4
MICOM
CG CS
COSMO CS
AF
HIP
SIM BUSY
TEST
NTSC/PAL
CMI3
CMI2
CMI1
CMI0
N.C
CMO 0
CMO 1
CMO 2
CMO 3
VSS
X1
X2
RESET
CL1
CL2
CG STB
TG STB
SIM CS
SIM STB
W/B B
W/B A
DDS SI
DDS SO
DDS SCK
N.C
SIM DA
WIDE
TELE
SIM CLK
TIM CLK
VDD
VTR PE
LI PE
R668 100K
R609 330K
R612 1M
C602 0.01u
Q602
Q601 KSA812
R610 330K
R611 47K
R613 1M
Q603 KSC1623
R616 180K
R614 100K
R615 100K
R617 100K
Q604 KSC1623
D609 KDS196
R618 100K
C603 TAN. 2.2/6.3
Q605 Q606 KSA812
R619 330K
R620 TAN. 100K
C605 2.2/6.3
R623 2.2K
R621 100K
C604 0.1u
Q607 KSC1623
Q608 2SK209
R625 100
D610 SB0105CP
C606 0.1u
Q609 KSA812
R624 33K
R627 68K
R626 2.2M
Q610 DTC144WK
R628 100K
C607 0.1u
R631 330K
C609 10P
X601 32.768KHZ
CT601 30P
X602 4.19MHZ
R660 R661 R637 R662 R663 1K
R633 R632 1K
R659 R664 R650 R649 R665 R666 R646 1K
R645 100K
R640 R641 R642 R643 R644 100K
L601 68u
S615 FADE
R629 22K
S616 BLC
R630 39K
C608 0.1u
CA601
1 DDSB+
2 TELE
3 SIMDA
4 WIDE
5 SIMCLK
6 COSMOCS
7 OSD CS
8 SIMSTB
9 SIMBUSY
10 DDSSCK
11 DDSSO
12 DDSSI
13 W/B O
14 W/B I
15 SIMCS
16 TGSTB
17 OSD STB
18 SSGND
19 SS5V
20 EVER5V
21 VD
22 LI3V
23 FADE
24 BLC
25 AF
TO/FORM DIGITAL CA502

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

IC601	
PIN NO	DC VOLTAGE
1	2.7V
2	4.8V
3	0.1V
4	0.0V
5	0.3V
6	4.9V
7	0.0V
8	4.0V
9	4.0V
10	4.0V
11	4.0V
12	4.8V
13	4.8V
14	4.8V
15	4.8V
16	4.8V
17	0.0V
18	1.1V
19	2.5V
20	4.9V
21	2.2V
22	2.2V
23	0.2V
24	0.1V
25	0.1V
26	0.1V
27	0.1V
28	0.1V
29	5.0V
30	2.2V
31	4.8V
32	0.0V
33	0.0V
34	4.9V
35	4.9V
36	5.1V
37	4.9V
38	4.9V
39	4.9V
40	0.0V
41	0.1V
42	0.1V
43	0.1V
44	0.1V

11-2-4. Matrix


RED — Y SIGNAL
- - - - R-Y SIGNAL
BLUE - - - - B-Y SIGNAL
CN101
1 5V
2 GND
3 CCD OUT
4 GND
CN001
FROM/TO DRIVE
TP101 CCD OUT
IC104 CXL1503M 1H DELAY
IC101 CXA1337Q COLOR SIGNAL SEPERATION
IC103 CXA1338Q MATRIX
IC105 CXL1504L 1H DELAY
CN103
CN003
1 CLK
2 XDL1
3 XDL2
4 SP1
5 SP2
6 SHD
7 SHP
8 GND
9 ID
10 CLP3
11 CLP1
12 PBLK
13 IRIS
FROM/TO DRIVE
CN102
CN002
1 CLP0
2 CLP2
3 VD
4 HD
5 BLK
6 BF
7 SYNC
8 LALT
9 GND
10 4FSC
FROM/TO DRIVE
W101
1 4FSC
2 GND
TO PROCESS CN302
CN301
1 LALT
2 SYNC
3 BF
4 BLK
5 VD
6 CLP2
7 CLP0
8 CBLK
9 GND
10 GND
11 CSY
12 YL-YH
13 APGAIN
14 DC
15 5V
16 B
17 G
18 R
19 YH
FROM/TO PROCESS
Y1 GAIN
C1 GAIN
C2 GAIN
Y GAIN
TP102 Y1
TP103 Y2
TP104 B
FL101
FL102
GND

IC101	
PIN NO	DC VOLTAGE
1	0.4V
2	0.8V
3	4.9V
4	1.9V
5	4.9V
6	1.9V
7	2.2V
8	3.7V
9	2.3V
10	4.9V
11	3.2V
12	0.1V
13	3.2V
14	3.2V
15	0.1V
16	0.6V
17	0.6V
18	0.7V
19	0.0V
20	0.7V
21	4.9V
22	4.9V
23	2.2V
24	4.9V
25	0.0V
26	1.2V
27	1.9V
28	1.2V
29	1.9V
30	1.8V
31	1.2V
32	1.9V
33	3.2V
34	1.8V
35	4.9V
36	2.0V
37	0.2V
38	4.2V
39	3.0V
40	2.0V
41	3.2V
42	1.9V
43	0.0V
44	3.0V
45	1.5V
46	2.1V
47	0.0V
48	0.3V

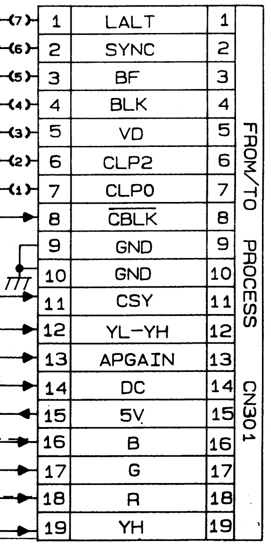
NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

RED ——— Y SIGNAL
- - - - - R-Y SIGNAL
BLUE - - - - - B-Y SIGNAL

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.



1	LALT	1
2	SYNC	2
3	BF	3
4	BLK	4
5	VD	5
6	CLP2	6
7	CLP0	7
8	$\overline{\text{CBLK}}$	8
9	GND	9
10	GND	10
11	CSY	11
12	YL-YH	12
13	APGAIN	13
14	DC	14
15	5V	15
16	B	16
17	G	17
18	R	18
19	YH	19

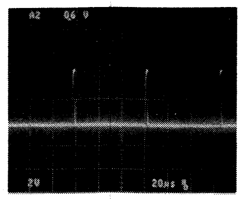
IC101	
PIN NO	DC VOLTAGE
1	0.4V
2	0.8V
3	4.9V
4	1.9V
5	4.9V
6	1.9V
7	2.2V
8	3.7V
9	2.3V
10	4.9V
11	3.2V
12	0.1V
13	3.2V
14	3.2V
15	0.1V
16	0.6V
17	0.6V
18	0.7V
19	0.0V
20	0.7V
21	4.9V
22	4.9V
23	2.2V
24	4.9V
25	0.0V
26	1.2V
27	1.9V
28	1.2V
29	1.9V
30	1.8V
31	1.2V
32	1.9V
33	3.2V
34	1.8V
35	4.9V
36	2.0V
37	0.2V
38	4.2V
39	3.0V
40	2.0V
41	3.2V
42	1.9V
43	0.0V
44	3.0V
45	1.5V
46	2.1V
47	0.0V
48	0.3V

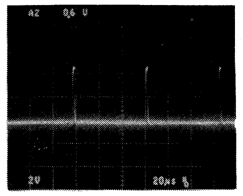
IC103	
PIN NO	DC VOLTAGE
1	3.9V
2	3.4V
3	4.9V
4	2.9V
5	2.4V
6	3.2V
7	2.3V
8	3.6V
9	3.4V
10	2.3V
11	3.9V
12	1.9V
13	2.0V
14	1.9V
15	2.0V
16	3.1V
17	3.3V
18	3.1V
19	0.0V
20	2.5V
21	2.9V
22	2.2V
23	2.9V
24	2.9V
25	3.9V
26	3.0V
27	3.8V
28	2.5V
29	2.5V
30	2.6V
31	2.6V
32	3.8V
33	2.9V
34	2.9V
35	2.9V
36	2.9V
37	3.6V
38	3.4V
39	3.4V
40	4.9V
41	0.2V
42	0.2V
43	0.0V
44	2.8V
45	0.0V
46	3.0V
47	1.8V
48	2.9V

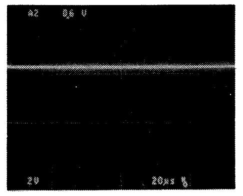
IC104	
PIN NO	DC VOLTAGE
1	0.0V
2	2.0V
3	2.0V
4	5.0V
5	0.7V
6	2.0V
7	0.1V
8	5.0V
9	1.8V
10	0.8V
11	1.8V
12	0.0V
13	1.9V
14	2.4V
15	1.9V
16	0.0V
17	0.0V
18	2.0V
19	2.0V
20	5.0V
21	1.9V
22	1.9V
23	1.9V
24	1.9V

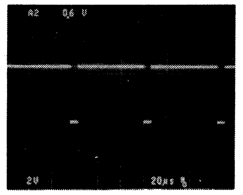
IC105	
PIN NO	DC VOLTAGE
1	1.1V
2	2.6V
3	0.0V
4	2.4V
5	4.9V
6	0.0V
7	0.8V
8	1.6V
9	0.0V
10	0.6V
11	0.0V
12	0.0V
13	4.9V
14	0.0V
15	0.0V
16	2.3V
17	4.9V
18	0.0V
19	0.0V
20	0.0V

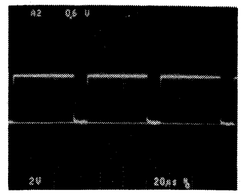
TR NO	EMITTER	BASE	COLLECTOR
Q104	2.5V	1.9V	0.0V
Q105	1.9V	2.5V	2.7V
Q106	2.1V	2.6V	4.9V
Q107	2.7V	2.1V	0.0V
Q108	2.1V	1.5V	0.0V
Q109	2.5V	1.0V	4.9V
Q110	0.8V	1.3V	2.0V
Q111	1.3V	0.8V	0.0V
Q112	0.5V	3.0V	0.0V
Q113	3.0V	0.8V	4.9V
Q114	3.0V	4.8V	0.0V
Q115	1.4V	0.8V	0.0V
Q116	1.7V	2.3V	4.9V
Q117	1.7V	1.7V	2.3V
Q118	2.5V	0.2V	2.5V
Q119	3.0V	2.5V	0.0V
Q120	3.0V	2.8V	0.0V
Q121	2.4V	1.9V	0.0V
Q122	2.4V	1.8V	0.0V
Q123	2.6V	2.3V	4.9V
Q124	3.2V	2.6V	0.0V
Q125	3.5V	2.9V	0.0V
Q126	3.0V	3.5V	4.9V
Q127	2.9V	2.3V	0.0V
Q128	2.4V	2.9V	4.9V
Q129	3.0V	2.4V	0.0V
Q130	2.2V	1.6V	0.0V
Q131	3.0V	3.6V	4.9V

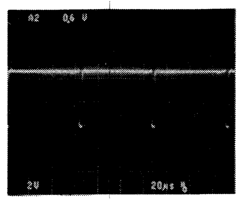

CN102-1
CLPO
5Vp-p

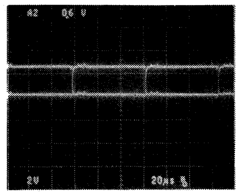

CN102-2
CLP2
5Vp-p

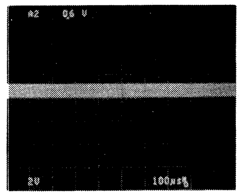

CN102-3
VD
5Vp-p

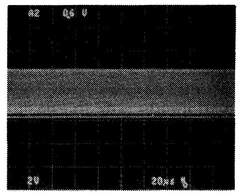

CN102-4
HD
5Vp-p

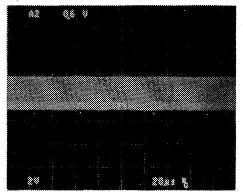

CN102-5
BLK
5Vp-p

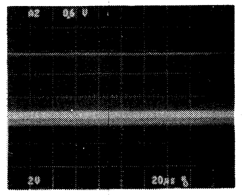

CN102-6
BF
5Vp-p

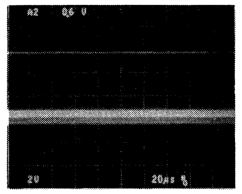

CN102-8
LALT
5Vp-p

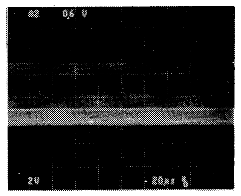

CN103-1
CLK
0.8Vp-p

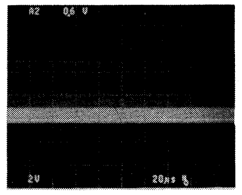

CN103-2
XDL 1
5Vp-p

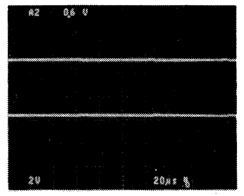

CN103-3
XDL 2
5Vp-p

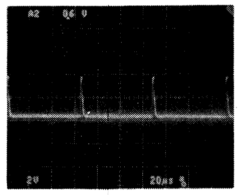

CN103-4
SP 1
5Vp-p

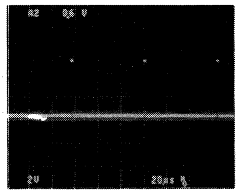

CN103-5
SP 2
5Vp-p

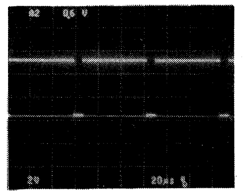

CN103-6
SUP
5Vp-p


CN103-7
SUD
5Vp-p


CN103-9
ZD
5Vp-p


CN103-10
CLP 3
4Vp-p

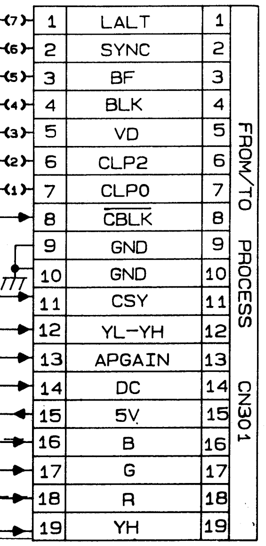

CN103-11
CLP 1
5Vp-p


CN103-12
PBLK
5Vp-p

RED ——— Y SIGNAL
- - - - - - - - R-Y SIGNAL
LUE - - - - - - - - B-Y SIGNAL

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.



(7)	1	LALT	1
(6)	2	SYNC	2
(5)	3	BF	3
(4)	4	BLK	4
(3)	5	VD	5
(2)	6	CLP2	6
(1)	7	CLPO	7
	8	$\overline{\text{CBLK}}$	8
	9	GND	9
	10	GND	10
	11	CSY	11
	12	YL−YH	12
	13	APGAIN	13
	14	DC	14
	15	5V	15
	16	B	16
	17	G	17
	18	R	18
	19	YH	19

FROM/TO PROCESS CN301

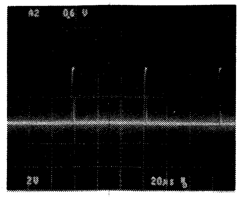
IC101	
PIN NO	DC VOLTAGE
1	0.4V
2	0.8V
3	4.9V
4	1.9V
5	4.9V
6	1.9V
7	2.2V
8	3.7V
9	2.3V
10	4.9V
11	3.2V
12	0.1V
13	3.2V
14	3.2V
15	0.1V
16	0.6V
17	0.6V
18	0.7V
19	0.0V
20	0.7V
21	4.9V
22	4.9V
23	2.2V
24	4.9V
25	0.0V
26	1.2V
27	1.9V
28	1.2V
29	1.9V
30	1.8V
31	1.2V
32	1.9V
33	3.2V
34	1.8V
35	4.9V
36	2.0V
37	0.2V
38	4.2V
39	3.0V
40	2.0V
41	3.2V
42	1.9V
43	0.0V
44	3.0V
45	1.5V
46	2.1V
47	0.0V
48	0.3V

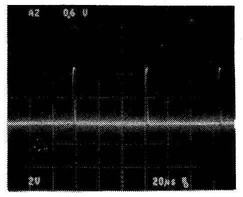
IC103	
PIN NO	DC VOLTAGE
1	3.9V
2	3.4V
3	4.9V
4	2.9V
5	2.4V
6	3.2V
7	2.3V
8	3.6V
9	3.4V
10	2.3V
11	3.9V
12	1.9V
13	2.0V
14	1.9V
15	2.0V
16	3.1V
17	3.3V
18	3.1V
19	0.0V
20	2.5V
21	2.9V
22	2.2V
23	2.9V
24	2.9V
25	3.9V
26	3.0V
27	3.8V
28	2.5V
29	2.5V
30	2.6V
31	2.6V
32	3.8V
33	2.9V
34	2.9V
35	2.9V
36	2.9V
37	3.6V
38	3.4V
39	3.4V
40	4.9V
41	0.2V
42	0.2V
43	0.0V
44	2.8V
45	0.0V
46	3.0V
47	1.8V
48	2.9V

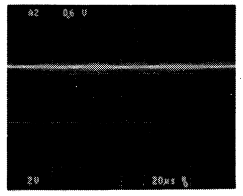
IC104	
PIN NO	DC VOLTAGE
1	0.0V
2	2.0V
3	2.0V
4	5.0V
5	0.7V
6	2.0V
7	0.1V
8	5.0V
9	1.8V
10	0.8V
11	1.8V
12	0.0V
13	1.9V
14	2.4V
15	1.9V
16	0.0V
17	0.0V
18	2.0V
19	2.0V
20	5.0V
21	1.9V
22	1.9V
23	1.9V
24	1.9V

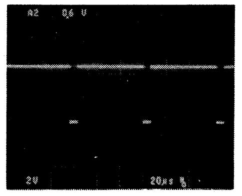
IC105	
PIN NO	DC VOLTAGE
1	1.1V
2	2.6V
3	0.0V
4	2.4V
5	4.9V
6	0.0V
7	0.8V
8	1.6V
9	0.0V
10	0.6V
11	0.0V
12	0.0V
13	4.9V
14	0.0V
15	0.0V
16	2.3V
17	4.9V
18	0.0V
19	0.0V
20	0.0V

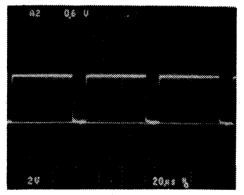
TR NO	EMITTER	BASE	COLLECTOR
Q104	2.5V	1.9V	0.0V
Q105	1.9V	2.5V	2.7V
Q106	2.1V	2.6V	4.9V
Q107	2.7V	2.1V	0.0V
Q108	2.1V	1.5V	0.0V
Q109	2.5V	1.0V	4.9V
Q110	0.8V	1.3V	2.0V
Q111	1.3V	0.8V	0.0V
Q112	0.5V	3.0V	0.0V
Q113	3.0V	0.8V	4.9V
Q114	3.0V	4.8V	0.0V
Q115	1.4V	0.8V	0.0V
Q116	1.7V	2.3V	4.9V
Q117	1.7V	1.7V	2.3V
Q118	2.5V	0.2V	2.5V
Q119	3.0V	2.5V	0.0V
Q120	3.0V	2.8V	0.0V
Q121	2.4V	1.9V	0.0V
Q122	2.4V	1.8V	0.0V
Q123	2.6V	2.3V	4.9V
Q124	3.2V	2.6V	0.0V
Q125	3.5V	2.9V	0.0V
Q126	3.0V	3.5V	4.9V
Q127	2.9V	2.3V	0.0V
Q128	2.4V	2.9V	4.9V
Q129	3.0V	2.4V	0.0V
Q130	2.2V	1.6V	0.0V
Q131	3.0V	3.6V	4.9V

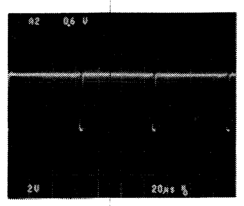

CN102-1
CLPO
5Vp-p

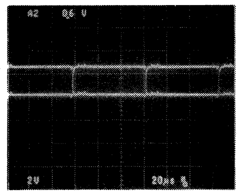

CN102-2
CLP2
5Vp-p

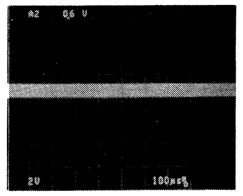

CN102-3
VD
5Vp-p

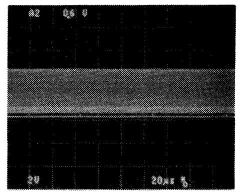

CN102-4
HD
5Vp-p

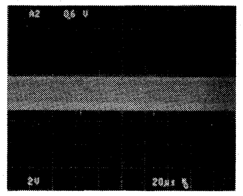

CN102-5
BLK
5Vp-p

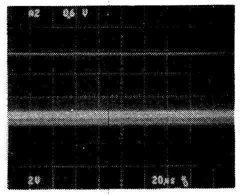

CN102-6
BF
5Vp-p

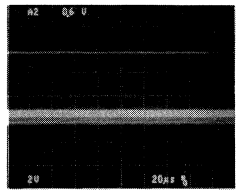

CN102-8
LALT
5Vp-p

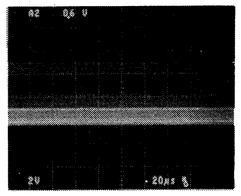

CN103-1
CLK
0.8Vp-p

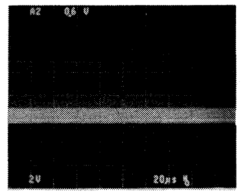

CN103-2
XDL 1
5Vp-p

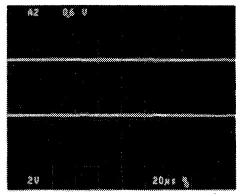

CN103-3
XDL 2
5Vp-p

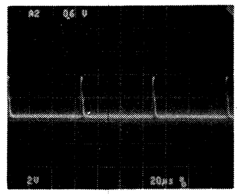

CN103-4
SP 1
5Vp-p

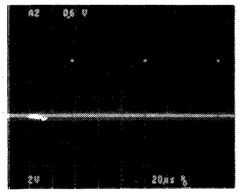

CN103-5
SP 2
5Vp-p

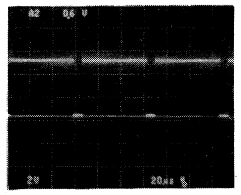

CN103-6
SUP
5Vp-p


CN103-7
SUD
5Vp-p

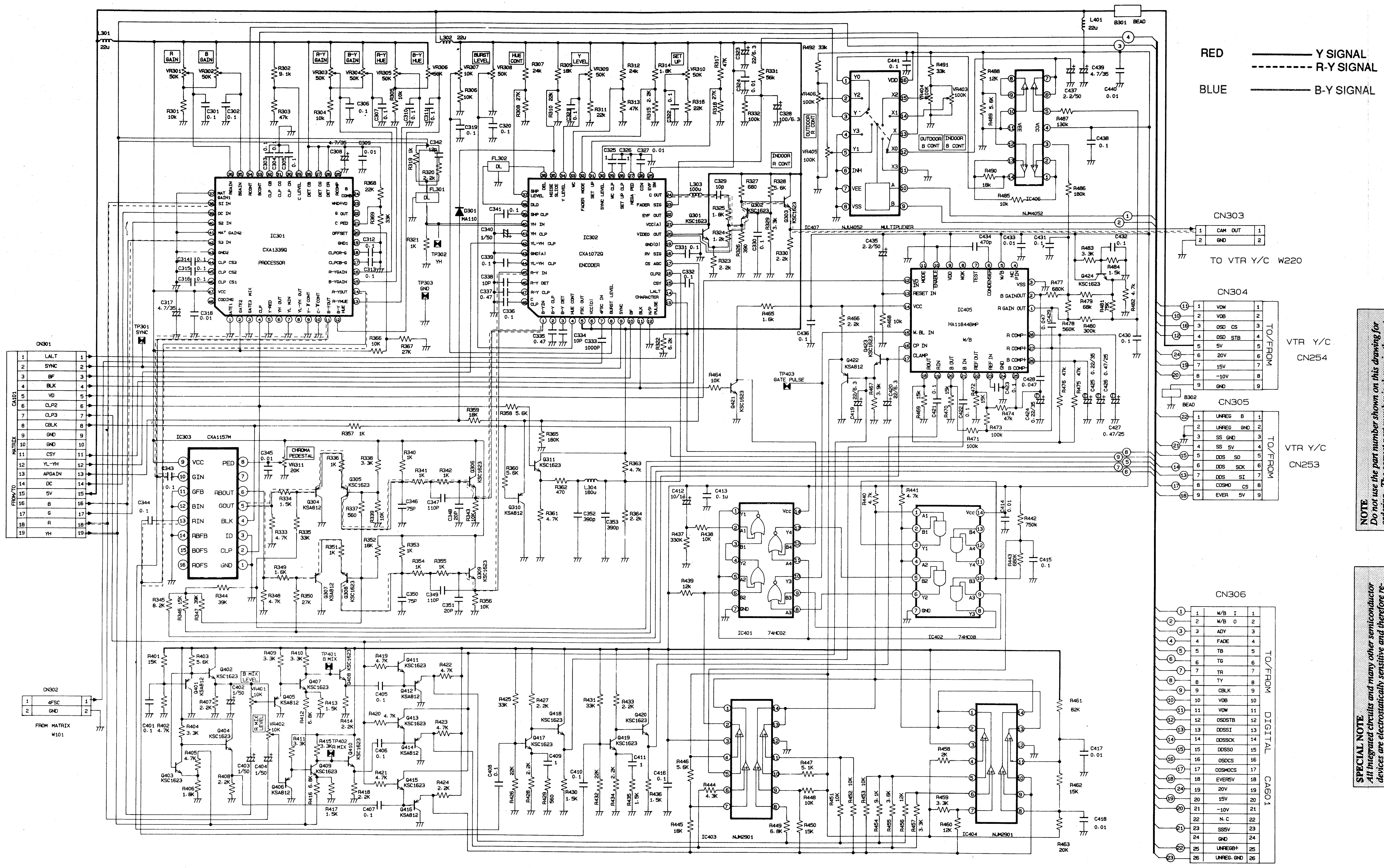

CN103-9
ZD
5Vp-p


CN103-10
CLP 3
4Vp-p


CN103-11
CLP 1
5Vp-p


CN103-12
PBLK
5Vp-p

11-2-5. Process


RED — Y SIGNAL
- - - - R-Y SIGNAL
BLUE — B-Y SIGNAL
IC301 CXA1339Q PROCESSOR
IC302 CXA1072Q ENCODER
IC303 CXA1157M
IC405 MA11844BMP W/B
IC407 NJU4052 MULTIPLEXER
NJM4052
IC401 74HC02
IC402 74HC08
IC403 NJM2901
IC404 NJM2901
CN301 FROM/TO MATRIX CA101
CN302 FROM MATRIX W101
CN303 TO VTR Y/C W220
CN304 TO/FROM VTR Y/C CN254
CN305 TO/FROM VTR Y/C CN253
CN306 TO/FROM DIGITAL CA601
R GAIN
B GAIN
R-Y GAIN
B-Y GAIN
R-Y HUE
B-Y HUE
BURST LEVEL
HUE CONT
Y LEVEL
SET UP
OUTDOOR R CONT
INDOOR R CONT
OUTDOOR B CONT
INDOOR B CONT
CHROMA PEDESTAL
B MIX LEVEL
R MIX LEVEL
TP301 SYNC
TP302 YH
TP303 GND
TP401 B MIX
TP402 R MIX
TP403 GATE PULSE
L401 22u
B301 BEAD
B302 BEAD

NOTE
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SPECIAL NOTE
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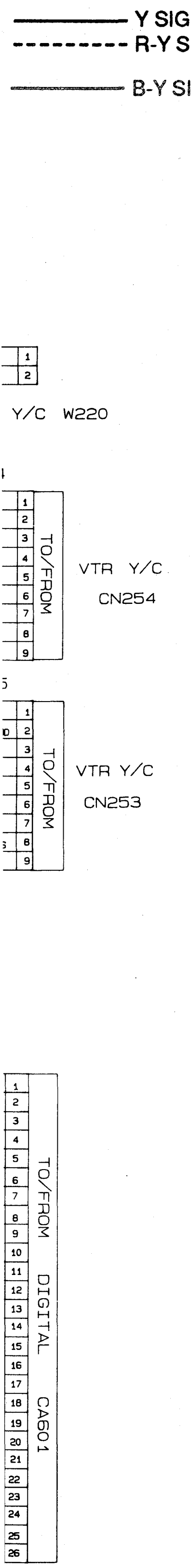
PROCESS



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SPECIAL NOTE
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PROCESS

IC301	
PIN NO	DC VOLTAGE
1	0.0V
2	5.0V
3	0.0V
4	0.2V
5	0.0V
6	2.7V
7	0.0V
8	3.0V
9	0.0V
10	5.0V
11	3.0V
12	3.9V
13	3.9V
14	3.0V
15	3.6V
16	4.4V
17	3.4V
18	3.3V
19	0.0V
20	5.0V
21	0.0V
22	2.8V
23	2.5V
24	4.2V
25	4.2V
26	5.0V
27	5.0V
28	5.0V
29	4.1V
30	3.4V
31	3.4V
32	3.4V
33	1.1V
34	2.4V
35	2.5V
36	2.4V
37	0.0V
38	2.0V
39	1.9V
40	1.9V
41	0.0V
42	1.9V
43	0.0V
44	3.2V
45	3.4V
46	3.1V
47	5.0V
48	2.6V

IC302	
PIN NO	DC VOLTAGE
1	3.4V
2	3.4V
3	3.5V
4	3.4V
5	5.0V
6	5.0V
7	2.5V
8	3.7V
9	4.6V
10	4.8V
11	3.2V
12	0.0V
13	0.0V
14	0.0V
15	3.1V
16	1.3V
17	2.2V
18	2.0V
19	0.0V
20	2.3V
21	4.9V
22	2.2V
23	1.2V
24	2.6V
25	5.0V
26	2.5V
27	0.0V
28	2.7V
29	2.9V
30	2.0V
31	1.9V
32	2.7V
33	3.3V
34	2.7V
35	2.7V
36	3.1V
37	2.6V
38	3.0V
39	2.5V
40	1.2V
41	2.1V
42	2.9V
43	0.0V
44	2.9V
45	3.4V
46	3.5V
47	3.4V
48	3.7V

IC303	
PIN NO	DC VOLTAGE
1	0.0V
2	0.1V
3	0.0V
4	5.1V
5	1.6V
6	1.6V
7	0.0V
8	2.9V
9	5.0V
10	2.4V
11	0.0V
12	0.0V
13	2.4V
14	0.0V
15	0.0V
16	0.0V

IC401	
PIN NO	DC VOLTAGE
1	5.0V
2	0.0V
3	0.0V
4	0.0V
5	5.0V
6	5.0V
7	0.0V
8	0.0V
9	0.6V
10	4.3V
11	5.0V
12	1.1V
13	0.0V
14	5.0V

IC402	
PIN NO	DC VOLTAGE
1	0.6V
2	3.9V
3	0.5V
4	3.9V
5	0.0V
6	0.0V
7	0.0V
8	0.6V
9	5.0V
10	0.6V
11	0.0V
12	0.0V
13	0.0V
14	5.0V

IC403	
PIN NO	DC VOLTAGE
1	0.7V
2	5.0V
3	5.0V
4	0.0V
5	2.6V
6	2.6V
7	2.6V
8	2.6V
9	2.7V
10	2.6V
11	2.7V
12	0.0V
13	0.7V
14	0.7V

IC404	
PIN NO	DC VOLTAGE
1	4.2V
2	4.2V
3	5.0V
4	2.6V
5	2.6V
6	2.6V
7	2.6V
8	3.0V
9	2.8V
10	2.8V
11	3.3V
12	0.0V
13	4.2V
14	0.8V

IC405	
PIN NO	DC VOLTAGE
1	0.6V
2	4.9V
3	0.0V
4	0.0V
5	5.0V
6	0.1V
7	4.9V
8	0.0V
9	5.0V
10	0.0V
11	5.0V
12	5.0V
13	0.0V
14	5.0V
15	4.4V
16	0.2V
17	2.6V
18	2.3V
19	2.5V
20	2.3V
21	2.5V
22	2.3V
23	2.5V
24	0.0V
25	2.3V
26	2.3V
27	2.3V
28	2.3V

IC406	
PIN NO	DC VOLTAGE
1	1.2V
2	1.2V
3	1.2V
4	5.0V
5	0.9V
6	0.9V
7	0.9V
8	0.0V
9	0.0V
10	0.0V
11	0.0V
12	1.6V
13	1.6V
14	2.3V

IC407	
PIN NO	DC VOLTAGE
1	2.3V
2	2.3V
3	2.3V
4	0.0V
5	2.5V
6	0.0V
7	0.0V
8	0.0V
9	0.6V
10	0.6V
11	0.0V
12	0.9V
13	0.9V
14	1.9V
15	1.0V
16	5.0V

PROCESS

TR NO	EMITTER	BASE	COLLECTOR
Q301	1.7V	2.3V	5.0V
Q302	1.2V	1.8V	3.3V
Q303	2.7V	3.3V	5.0V
Q304	2.1V	1.5V	0.0V
Q305	3.1V	3.7V	4.0V
Q306	3.4V	4.0V	5.0V
Q307	2.1V	1.5V	0.0V
Q308	3.1V	3.7V	4.0V
Q309	3.4V	4.0V	5.0V
Q310	2.1V	2.2V	0.0V
Q311	1.2V	0.1V	5.0V
Q401	1.8V	1.2V	0.0V
Q402	1.2V	1.8V	5.0V
Q403	1.2V	1.8V	3.6V
Q404	3.0V	3.6V	5.0V
Q405	1.9V	1.2V	0.0V
Q406	1.9V	1.2V	0.0V
Q407	1.3V	1.9V	2.9V
Q408	2.2V	2.8V	5.0V
Q409	1.3V	1.9V	2.9V
Q410	2.3V	2.9V	5.0V
Q411	2.0V	0.1V	2.0V
Q412	0.9V	2.0V	0.0V
Q413	1.9V	0.1V	2.0V
Q414	2.6V	2.0V	0.0V
Q415	2.2V	0.1V	2.0V
Q416	2.8V	2.2V	0.0V
Q417	4.0V	2.0V	3.6V
Q418	2.9V	3.6V	5.0V
Q419	1.4V	2.0V	3.6V
Q420	3.3V	3.6V	5.0V
Q421	2.1V	0.1V	2.0V
Q422	2.6V	2.0V	0.0V
Q423	2.0V	2.6V	5.0V
Q424	0.9V	1.5V	5.0V